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Water Supply Outlook For Washington

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SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

AS OF
FEB. 1, 1980

USDA SCS PORTLAND OR 1979

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject ta a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The averoge of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly ar semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United Stotes and in the Columbio Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at volley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations ond others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Partland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Woshington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEY

Issued by

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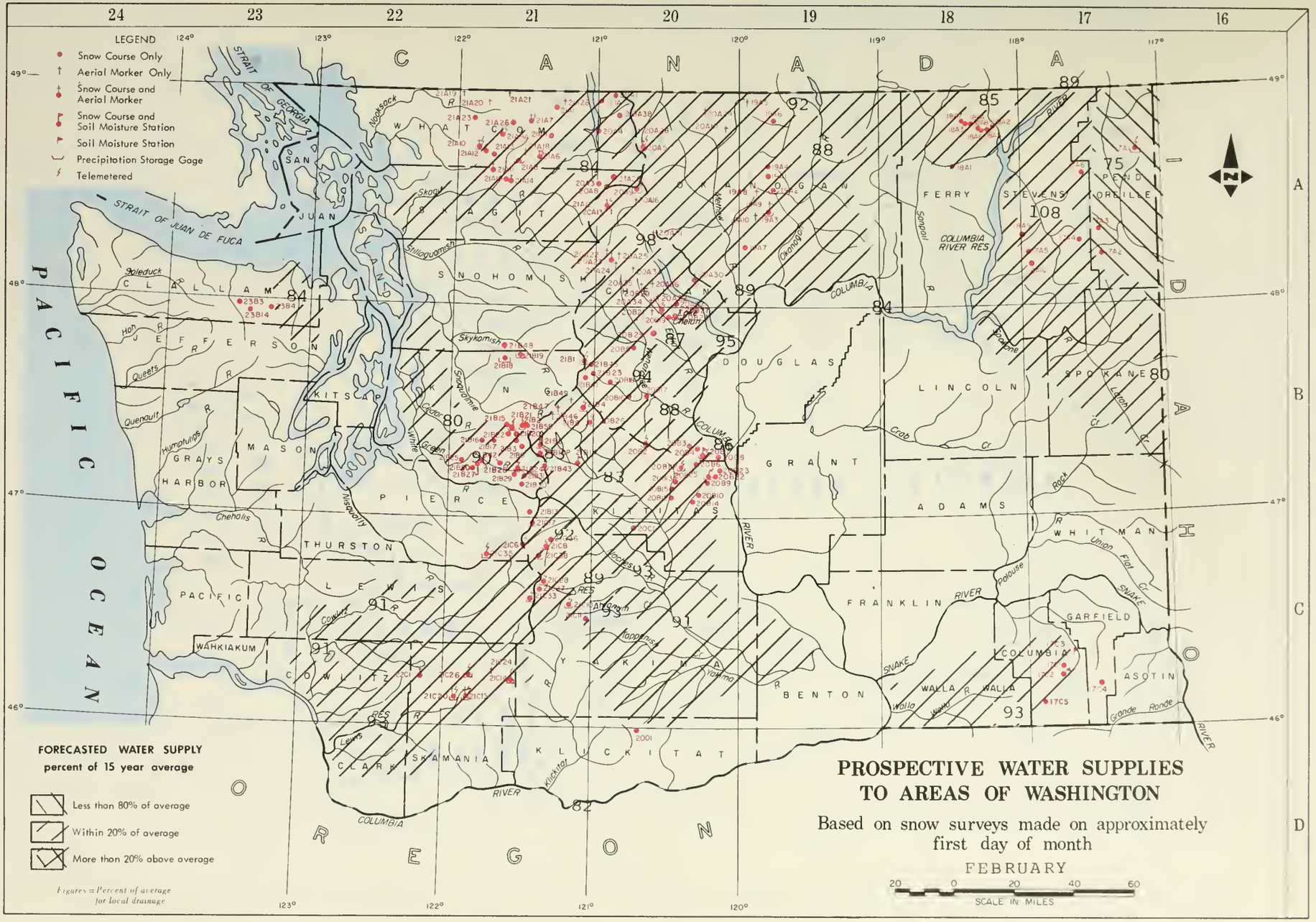

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Colville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Taga	18A10	6	29N	38E	3370

Sanpoil River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okanagan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Muttan Creek No. 1	19A1	30	37N	24E	5700
Muttan Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Touts Caulee	19A6	30	39N	25E	2845

Methow River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650

Chelan Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cloudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

Colockum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Jae Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asatin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Touchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cause	17C3m	2	9N	40E	3370
Hamestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Pass	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lane Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cowlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Carral Pass	21B13SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snoqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700

Skykomish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hazomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dack Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500

Nooksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Morse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A p	Precipitation Storage Gage
21A7SP	Snow Pillow

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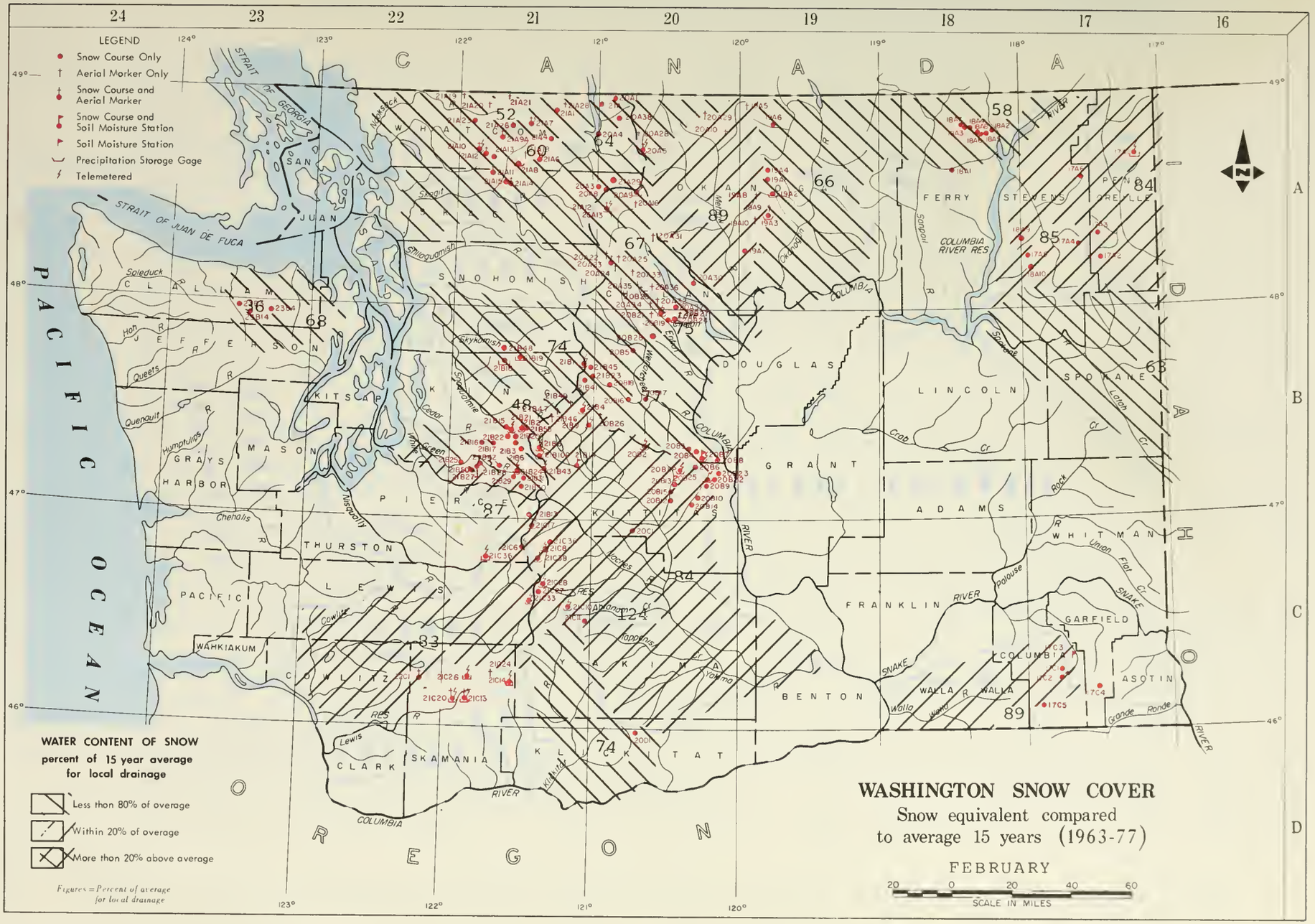

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UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Calville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Tago	18A10	6	29N	38E	3370

Sanpail River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okanagan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Muttan Creek No. 1	19A1	30	37N	24E	5700
Muttan Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845

Methaw River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650

Chelan Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cloudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersans	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Faur Mile Ridge	20B27a	15	28N	19E	6800
Fax Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tammy Creek	20B21a	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenwarth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Traugh #2	20B25SP	10	20N	20E	5310

Calackum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Calackum Creek Upper	20B22	11	20N	20E	5300
Calackum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scaut-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	15N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Jae Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Marse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Nile Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20826a	16	23N	15E	5925
Walters Flat	20815	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asatin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Tauchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cause	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Pass	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lane Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cawlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Patata Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Carral Pass	21B13SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21824P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B21	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21821P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21817P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snaqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21848	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	3700

Skykamish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brawn Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hazameen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Duck Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Maunt Blum	21A18a	27	38N	10E	5800
Racky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500

Naaksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Marse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A-p	Precipitation Storage Gage
21A-SP	Snow Pillow

WATER SUPPLY OUTLOOK

State of Washington

February 1, 1980

The situation in the state of Washington is not unlike that which we had two years ago. Our snow packs are not as good as they were in 1978 and the expected water supplies, likewise, are not as good; but it is much improved from last year and things are even looking up from the preliminary reports of last month. Valley rainfall was above average in Northeastern, Southeastern, and Central Washington, as reported by the National Weather Service this last month, but the accumulation of winter precipitation, from November through January, is only above normal in the central portion of the state. The snow that fell during the winter, to date, indicates only one of the reporting drainage division areas to have above normal snow packs; and this, a small drainage area in the Central Yakima Project, Ahtanum Creek. All other basins have below normal snow cover that ranges down to a low of 36 percent of normal for the Elwha Drainage in the Olympic Peninsula. Water supply forecasts prepared by the Soil Conservation Service and the National Weather Service are for expected April-September flows that range from 75 percent of normal for the Pend Oreille River, as measured below Box Canyon, to a high of 95 percent of normal for the American River, as measured near Nile. As it now stands, with normal precipitation, both in the form of snow and rain, for the rest of the winter and spring months, an adequate water supply should be experienced in all areas. If we do not receive this normal rainfall amount, these forecasts will be reduced and the situation could become somewhat critical in some areas.

SNOW COVER

In the Upper Columbia Basin of Washington and in tributary areas, the snow pack ranges from a low of 58 percent of normal on the Kettle River, draining out of British Columbia, to a high of 24 percent above normal on the Ahtanum. The majority of basins in this area have a snow pack averaging 75 percent of normal. The situation compared to last year is considerably better, but not as good as occurred in 1978. Only three basins are sampled in the Lower Columbia Drainage, and these three have a snow pack that is near 80 percent of average, and when compared to last year - considerably better, except for Mill Creek. Puget Sound Drainage has a snow pack that ranges from 48 percent of average on the Snoqualmie Drainage to a high of 87 percent on the White. The average snow water equivalent in this area is approximately 75 percent of normal. Only two basins in the Olympic Peninsula are sampled, and these have a snow pack 36 percent of normal for the Elwha River and 68 percent for the Dungeness. Both are sampled by only one snow course each.

RESERVOIRS

The amount of water stored in the irrigation reservoirs as of February 1, is above average only in the Bumping Reservoir, Lake Cle Elum, and Salmon Lake. Bumping Reservoir has 18 percent above normal amounts of water in storage and Salmon Lake has 9 percent above. The Cle Elum Reservoir, which is still closed for repair, has 39 percent above normal amounts of water in storage. The power reservoirs have less than normal amounts of water in storage as of February 1, as a result of early winter drawdown to meet the power needs of the state. Currently, the forecasted inflow to these reservoirs is enough for them to fill with the spring runoff barring unforeseen drawdown or subnormal conditions subsequent to this date.

PRECIPITATION

Rainfall during January was both good and bad. As stated above, above normal precipitation occurred in Northeastern, Southeastern, and Central Washington, with these locations experiencing 17, 29, and 56 percent above normal, respectively. In the Upper Columbia, rainfall has been above normal only in two of the five months and the good precipitation of December in this area had a dramatic turn around during January. In the Pend Oreille-Spokane Drainage, rainfall has been consistently below normal for the past four months. In Northeastern Washington, rainfall for the winter period has improved to 86 percent of average as has the Northwest Slopes of the Cascades; but we need normal conditions for the rest of the winter and spring season to assure us of an adequate water supply for both power and irrigation.

STREAMFLOW

January streamflow was subnormal in all river basins in the state. The low elevation rivers such as the Palouse and the Green had the least amount of water while the rest averaged 60 to 70 percent of normal. Cold weather this past month has reduced the streamflow considerably and has markedly affected some of the basins' outflow. Forecasts for streamflow are for 82 to 89 percent of normal on the Columbia mainstream, 75 percent on the Pend Orille River, and 85 to 108 percent in the Kettle-Colville Drainage. Spokane outflow is expected to be near 80 percent and in the Okanogan-Methow 88 to 92 percent of normal. The Chelan-Wenatchee is expected to have from 88 to 95 percent normal runoff, and in the Yakima, from 83 to 95 percent normal outflows. Forecasts along the Lower Columbia tributaries are for flows from 91 to 93 percent of normal and Puget Sound Drainages range from 80 to 90 percent of normal. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - FEBRUARY, 1980

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1979 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
COLUMBIA BASIN							
COLUMBIA RIVER SYSTEM							
Columbia River	40700	89	Apr-Sept	34484	44008	31562	45502
at Birchbank 1/	31900	88	Apr-July	27181	34030	23812	36353
	22000	84	Apr-June	19661	24082	18026	26194
Columbia River	57400	84	Apr-Sept	52769	66868	41056	68012
at Grand Coulee 1/	48000	84	Apr-July	44096	54559	32018	57035
	35500	80	Apr-June	35138	41585	25623	44273
Columbia River	63500	86	Apr-Sept	55298	72892	43415	73935
bl. Rock Island Dam 1/	52500	84	Apr-July	46700	60163	34253	62462
	40200	83	Apr-June	37453	46242	27563	48489
Columbia River	84700	82	Apr-Sept	76843	101055	54092	103493
at The Dalles, OR 1/	71000	80	Apr-July	65758	84815	42940	88519
	57000	80	Apr-June	55016	67353	35524	71237
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	11700	75	Apr-Sept	11639	15581	4130	15950
bl. Box Canyon	11000	75	Apr-July	11095	14080	2715	14690
	8800	75	Apr-June	10217	11750	2261	11760
KETTLE RIVER SYSTEM							
Kettle River	1575	85	Apr-Sept	1265	2056	1145	1846
nr. Laurier	1490	85	Apr-July	1211	1877	1105	1754
	1325	83	Apr-June	1137	1686	1037	1588
Colville River	145	108	Apr-Sept		138	26	134
at Kettle Falls	135	110	Apr-July		125	22	123
	125	109	Apr-June		117	20	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
SPOKANE RIVER SYSTEM **							
Spokane River	2290	80	Apr-Sept	2809	2427	-	2910
at Post Falls, ID 2/	2200	80	Apr-July	2757	2330	-	2733
	2100	81	Apr-June	2678	2119	-	2600
OKANOGAN RIVER SYSTEM							
Similkameen River	1390	92	Apr-Sept	870	1505	645	1517
nr. Nighthawk	1275	90	Apr-July	809	1365	605	1417
	1070	90	Apr-June	726	1170	547	1192
Okanogan River	1510	88	Apr-Sept	911	1690	708	1719
nr. Tonasket	1345	86	Apr-July	830	1500	644	1565
	1120	86	Apr-June	738	1286	583	1305
METHOW RIVER SYSTEM							
Methow River	900	89	Apr-Sept		1174	280	1011
nr. Pateros	845	90	Apr-July		1058	246	937
	710	90	Apr-June		876	217	791
CHELAN RIVER SYSTEM							
Chelan River	1175	95	Apr-Sept	753	1335	599	1237
at Chelan 3/	1035	96	Apr-July	663	1164	481	1080
	810	97	Apr-June	553	906	403	834
Stehekin River	865	98	Apr-Sept		888	494	883
at Stehekin	740	99	Apr-July		750	382	744
	560	100	Apr-June		563	311	557
Entiat	210	87	Apr-Sept		295	95	241
nr. Ardenvoir	195	89	Apr-July		268	81	218
	160	92	Apr-June		275	70	174
WENATCHEE RIVER SYSTEM							
Wenatchee River	1215	94	Apr-Sept		1311	633	1297
at Plain	1090	94	Apr-July		1171	542	1156
	840	93	Apr-June		945	479	903
Wenatchee River	1550	88	Apr-Sept	1204	1755	839	1767
at Peshastin	1430	90	Apr-July	1110	1576	730	1587
	1140	91	Apr-June	969	1275	653	1250
Stemilt Basin nr. Wenatchee	130	94	May-Sept	-	-	-	138*
Icicle Creek	315	85	Apr-Sept	-	-	-	371
nr. Leavenworth	295	87	Apr-July	-	-	-	342
	250	90	Apr-June	-	-	-	279

* Thousands of Miners' Inches.

** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
YAKIMA RIVER SYSTEM							
Yakima River	120	83	Apr-Sept	124	114	78	145
nr. Martin 4/	110	83	Apr-July	114	101	67	133
	100	88	Apr-June	101	93	67	114
Yakima River	805	83	Apr-Sept	714	808	493	975
at Cle Elum 5/	735	83	Apr-July	683	696	416	883
	640	85	Apr-June	599	614	379	751
Yakima River	1980	91	Apr-Sept	1388	1977	802	2168
nr. Parker 6/	1780	91	Apr-July	1287	1691	657	1954
	1580	93	Apr-June	1179	1487	611	1693
Kachess River	110	87	Apr-Sept	101	98	61	126
nr. Easton 7/	105	88	Apr-July	95	91	55	119
	95	91	Apr-June	88	84	53	104
Cle Elum River	420	88	Apr-Sept	348	417	250	479
nr. Roslyn 8/	395	91	Apr-July	326	372	215	435
	340	95	Apr-June	292	318	193	358
Bumping River	135	92	Apr-Sept	99	119	63	146
nr. Nile 9/	125	94	Apr-July	92	108	55	133
	100	94	Apr-June	82	93	51	106
American River	120	95	Apr-Sept		111	50	127
nr. Nile	115	99	Apr-July		93	44	116
	95	90	Apr-June		84	39	95
Tieton River	225	89	Apr-Sept	179	228	128	252
at Tieton Dam 10/	195	92	Apr-July	148	188	93	212
	155	92	Apr-June	120	148	76	168
Naches River	830	93	Apr-Sept	574	721	330	894
nr. Naches 11/	770	95	Apr-July	528	657	270	807
	660	97	Apr-June	478	564	250	680
Ahtanum Creek	43	93	Apr-Sept		48	8	47
nr. Tampico 12/	40	95	Apr-July		43	7	42
	35	95	Apr-June		37	6	37

4/ Observed flow corrected for storage in Lake Keechelus.
5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.
6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.
7/ Observed flow corrected for storage in Lake Kachess.
8/ Observed flow corrected for storage in Lake Cle Elum.
9/ Observed flow corrected for storage in Bumping Lake.
10/ Observed flow corrected for storage in Rimrock Lake.
11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.
12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek	16.30	93	Apr-Sept		12.11	4.47	17.50
at Walla Walla	16.05	93	Apr-July		11.99	4.29	17.33
	15.90	93	Apr-June		11.91	4.25	17.15
Lewis River	1210	93	Apr-Sept	974	904	1030	1301
at Ariel 13/	1040	92	Apr-July	839	610	832	1131
	920	92	Apr-June	755	515	763	995
Cowlitz River	1940	91	Apr-Sept		1635	1570	2125
bl. Mayfield Dam	1670	90	Apr-July		1348	1293	1853
	1415	91	Apr-June		1150	1168	1552
Cowlitz River	2520	91	Apr-Sept	1985	2232	2137	2767
at Castle Rock 14/	2180	91	Apr-July	1746	1835	1766	2401
	1880	93	Apr-June	1537	1581	1601	2028
OLYMPIC PENINSULA							
DUNGENESS RIVER SYSTEM							
Dungeness River	135	84	Apr-Sept		152	97	160
nr. Sequim	110	85	Apr-July		115	75	130
	85	88	Apr-June		83	61	96
PUGET SOUND							
SKAGIT RIVER SYSTEM							
Skagit River	2260	89	Feb-Aug	1785	2204	1155	2532
at Newhalem 15/	1980	84	Apr-Sept	1648	2115	728	2356
	1655	84	Apr-July	1359	1690	535	1972
	1260	85	Apr-June	1102	1285	429	1485
GREEN RIVER SYSTEM							
Green River							
bl. Howard Hanson Dam 16/	420	90	Feb-Sept		294	305	467
CEDAR RIVER SYSTEM							
Cedar River	75	80	Apr-Sept			55	93
nr. Cedar Falls							

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about February 1, 1980, as percent of the same date in 1979 and 1978 and average of record.

Tributary Basin	No. of Courses Average	1980 Snow Water Expressed as percent of 1979	1978	1963-77 Avg.
UPPER COLUMBIA BASIN				
Pend Oreille	9	153	76	84
Kettle	15	111	50	58
Colville	5	137	76	85
Spokane	4	76	89	63
Okanogan	28	143	57	66
Methow	4	448	84	89
Chelan	4	121	59	67
Entiat	11	192	72	75
Wenatchee	8	114	70	77
Yakima	17	143	85	84
Ahtanum	2	176	88	124
LOWER COLUMBIA BASIN				
Mill Creek	3	84	160	89
Klickitat	1	178	96	74
Cowlitz	1	130	107	83
PUGET SOUND				
White	2	140	80	87
Green	10	94	234	73
Snoqualmie	1	73	72	48
Skykomish	2	113	69	74
Skagit	13	123	68	64
Baker	9	133	66	60
Nooksack	2	125	80	52
OLYMPIC PENINSULA				
Elwha	1	76	65	36
Dungeness	1	114	103	68

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured (February) 1980	1979	1978	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	54.9	13.7	134.7	145.3
Columbia	Franklin D. Roosevelt Lake	5232.0	3063.5	4228.4	3149.2	3698.2
Columbia	Banks Lake	714.9	690.9	690.8	714.9	619.4
Okanogan	Conconully Reservoir	13.0	3.0	9.7	3.0	6.2
Okanogan	Salmon Lake	10.5	8.3	10.5	6.0	7.6
Chelan	Lake Chelan	676.1	255.7	276.5	274.6	294.2
		YAKIMA				
Yakima	Keechelus Lake	157.8	67.4	66.2	130.7	97.6
Kachess	Kachess Lake	239.0	67.9	178.0	178.5	173.4
Cle Elum	Lake Cle Elum	436.9	361.7	65.6	229.4	259.7
Bumping	Bumping Lake	33.7	9.2	3.7	32.8	7.8
Tieton	Rimrock Lake	198.0	54.6	138.7	167.4	118.0
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	845.8	760.5	1001.8	1012.6
Skagit	Diablo Reservoir	90.6	87.9	86.8	85.2	84.2
Skagit	Gorge Reservoir	9.8	7.1	8.3	8.2	7.9

1/ Based on Active Storage

* 15-yr. Average 1963-1977

SOIL MOISTURE - FEBRUARY, 1980

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of Feb. 1 1980	1979	1978
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	Late	3.3	3.5
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	9.95	-	8.0
Helmers	17C2M	4400	48	12.0	8.98	8.7	9.8
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	11.03	6.9	9.9

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1979	1978	1977
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	3.1	3.7	3.2
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.7	5.9	-
Helmers	17C2M	4400	48	12.0	8.1	8.2	-
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.1	10.3	6.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct 1979 2/ Observed	FALL Departure	WINTER Nov 1979 - Jan 1980 2/ Observed	WINTER Departure
Columbia in Canada	4.44	-0.58	9.53	-1.60
Pend Oreille - Spokane	3.23	-0.81	8.75	-3.43
Northeastern Washington	2.53	+0.05	5.74	-0.97
Southeastern Washington	2.53	+0.02	6.94	-0.12
Central Washington	1.55	+0.58	4.57	+0.82
North Central Washington	2.22	+0.63	3.65	-1.19
Northwest Slope Cascades	10.68	-2.53	32.64	-5.29
Southwest Slope Cascades	9.66	+0.98	23.33	-5.58

Northeastern Washington - Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon, and Palouse Drainages.

Central Washington - Yakima, Wenatchee, and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

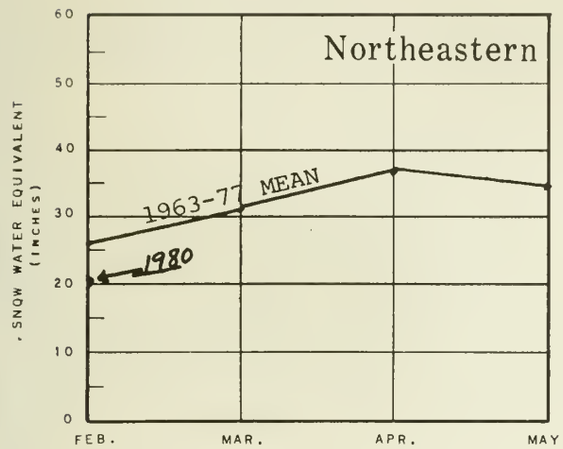
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

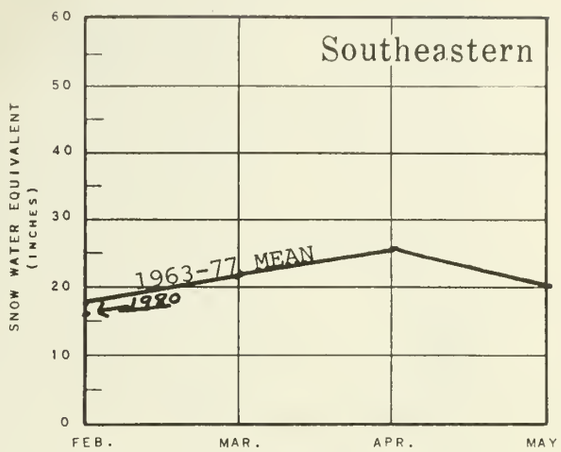
2/ - Departure from 15-year (1958-72) drainage division average.

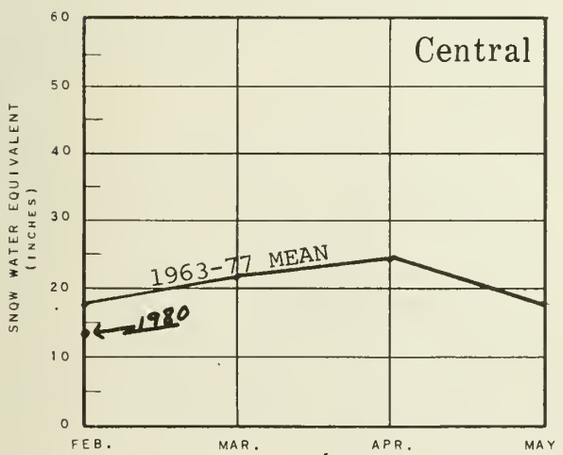
WASHINGTON SNOW COVER

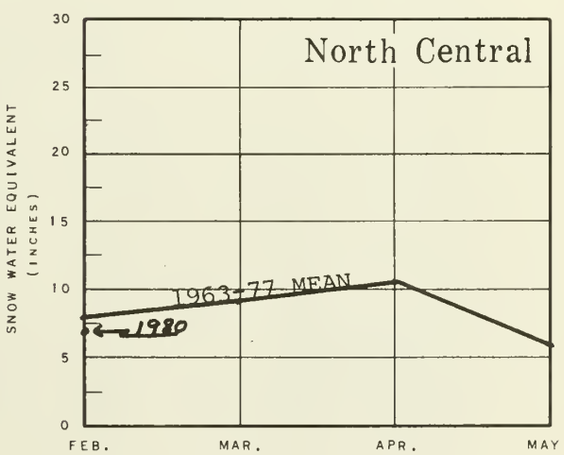
1980

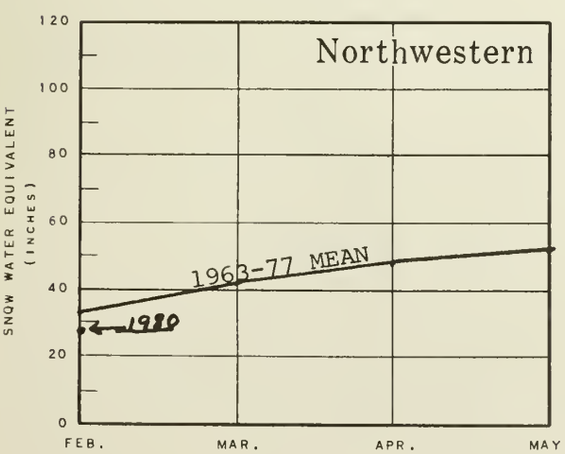
DRAINAGE AREAS

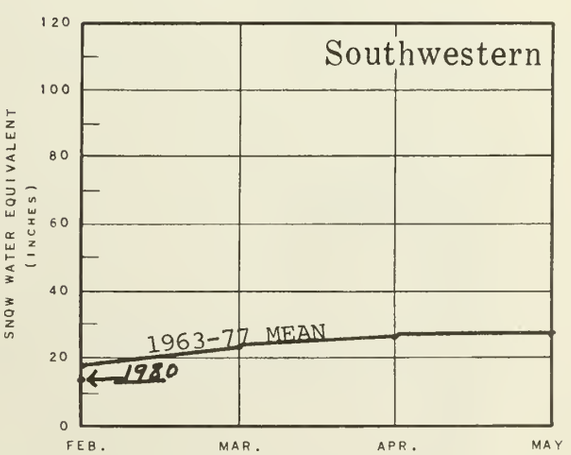












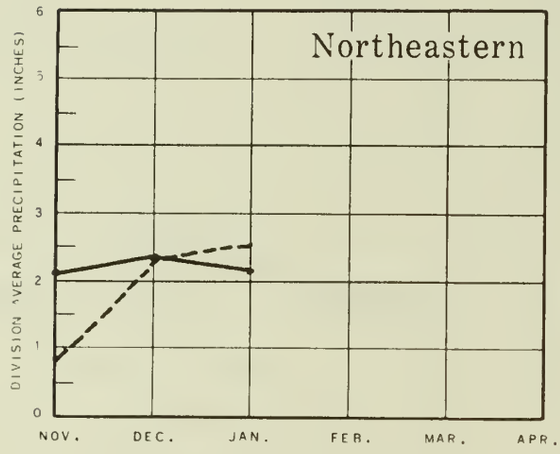
M7-L-22028G

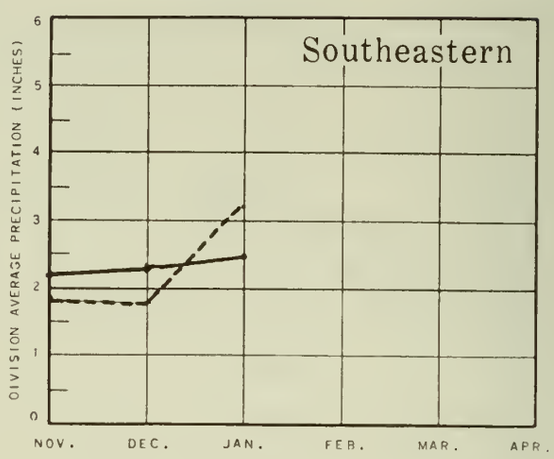
Selected Snow Survey Courses by Soil Conservation Service

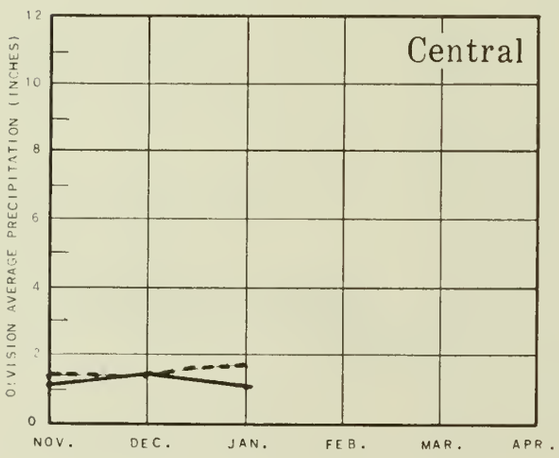
WASHINGTON VALLEY PRECIPITATION

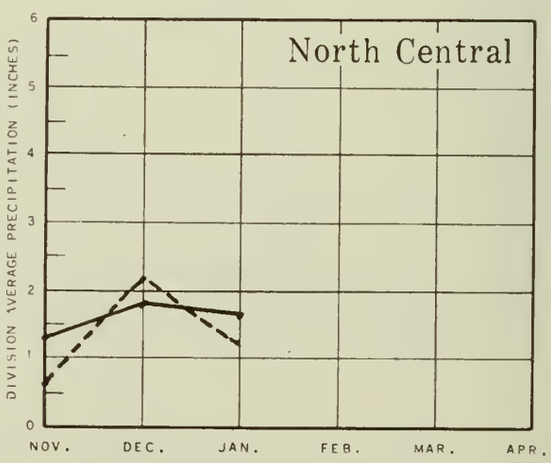
1980

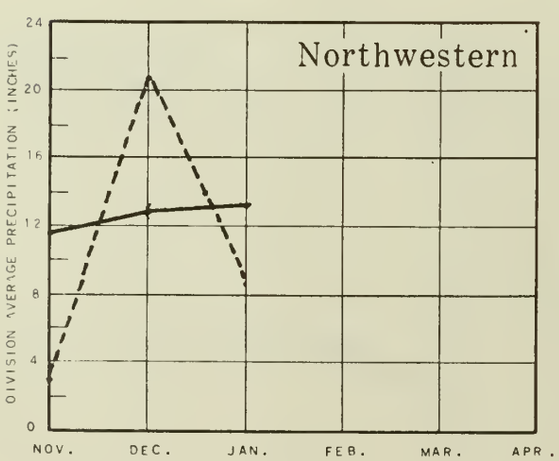
DRAINAGE AREAS

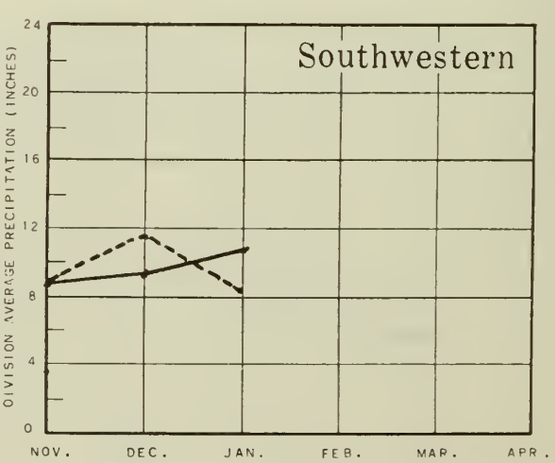










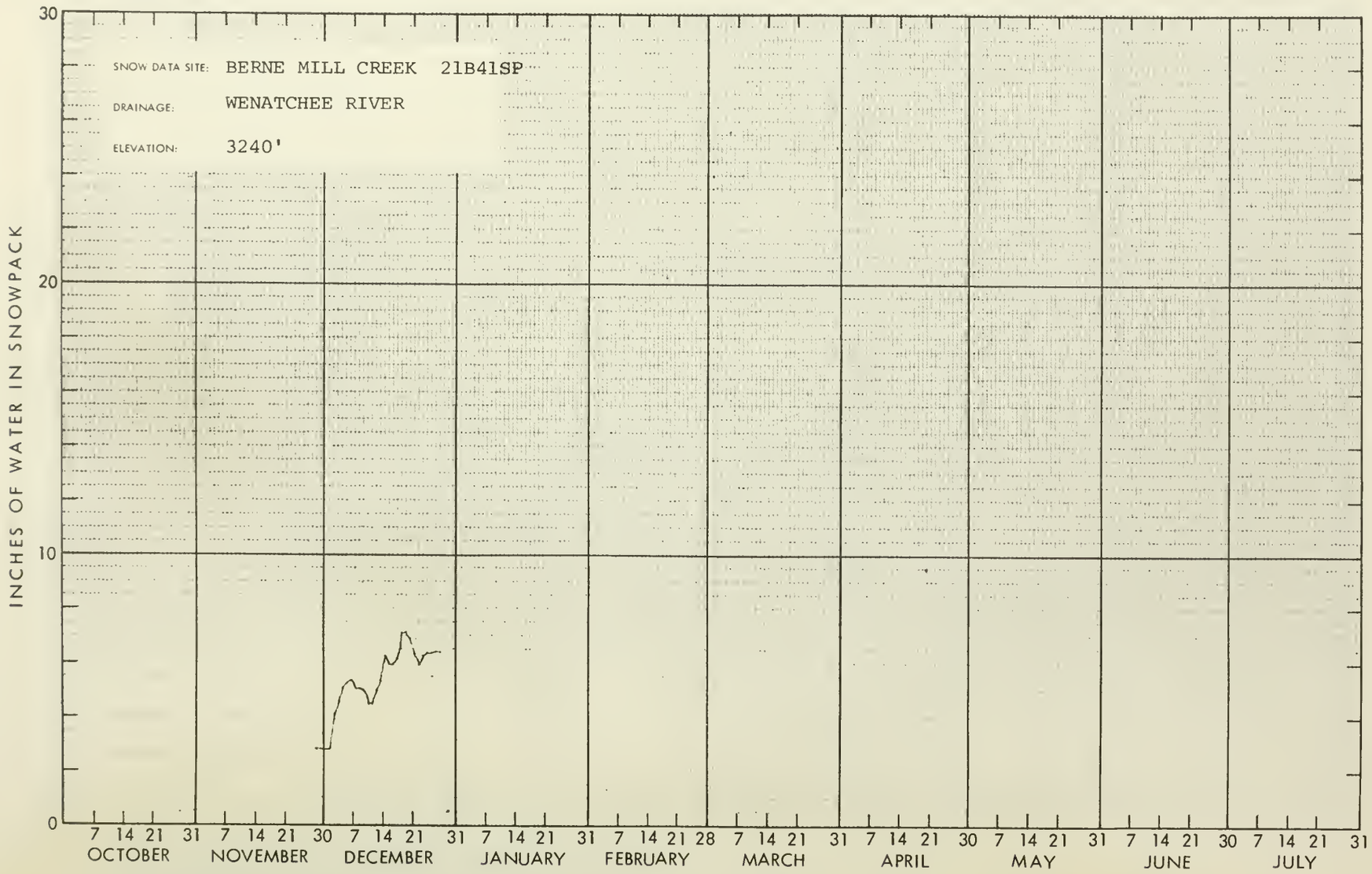


Average: ——
1980 : - - - - - -

Preliminary Analysis by National Weather Service

M7-L-22028H

WSFB-X138


SNOW DATA SITE: BERNE MILL CREEK 21B41SP
DRAINAGE: WENATCHEE RIVER
ELEVATION: 3240'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
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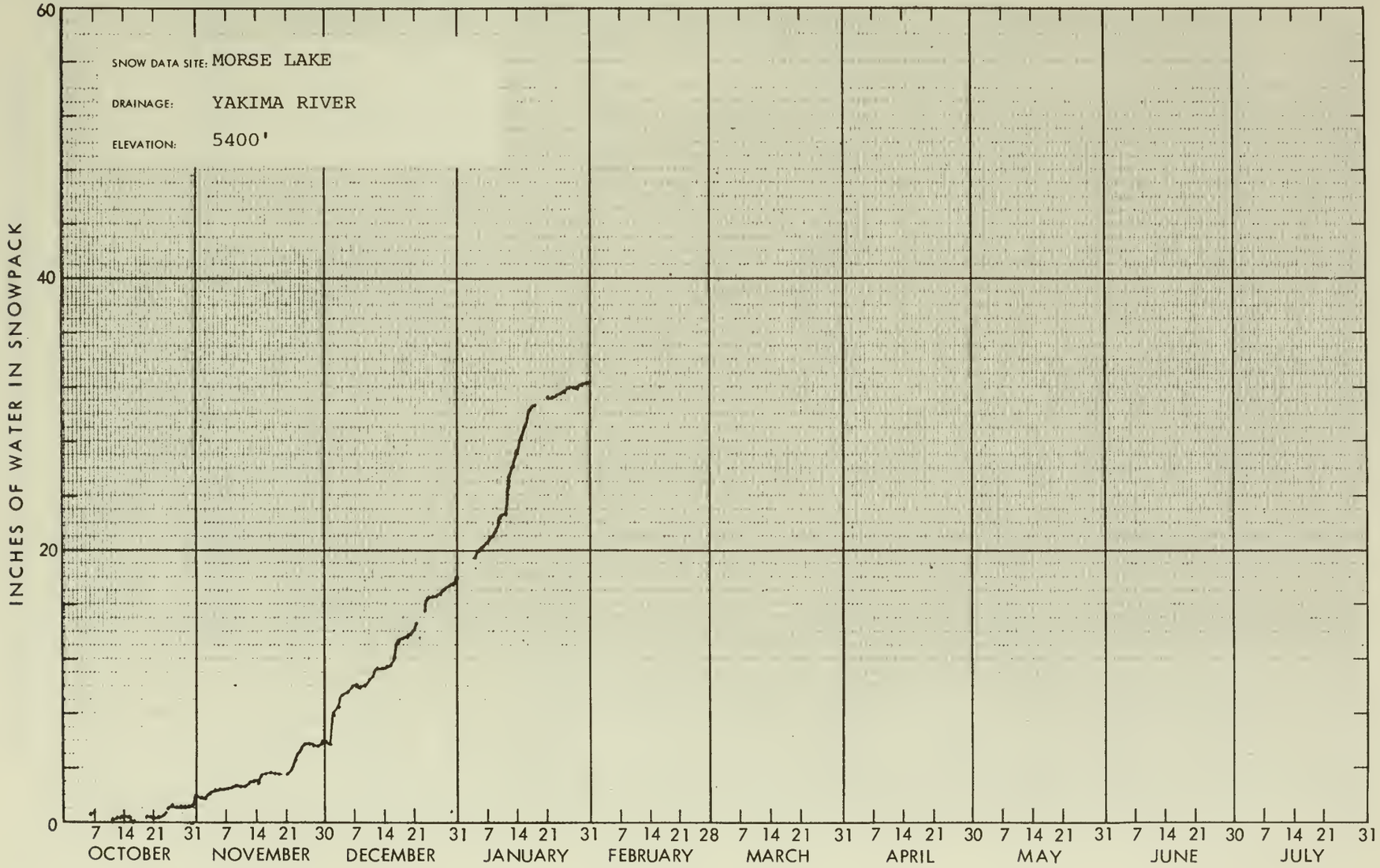
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X13C



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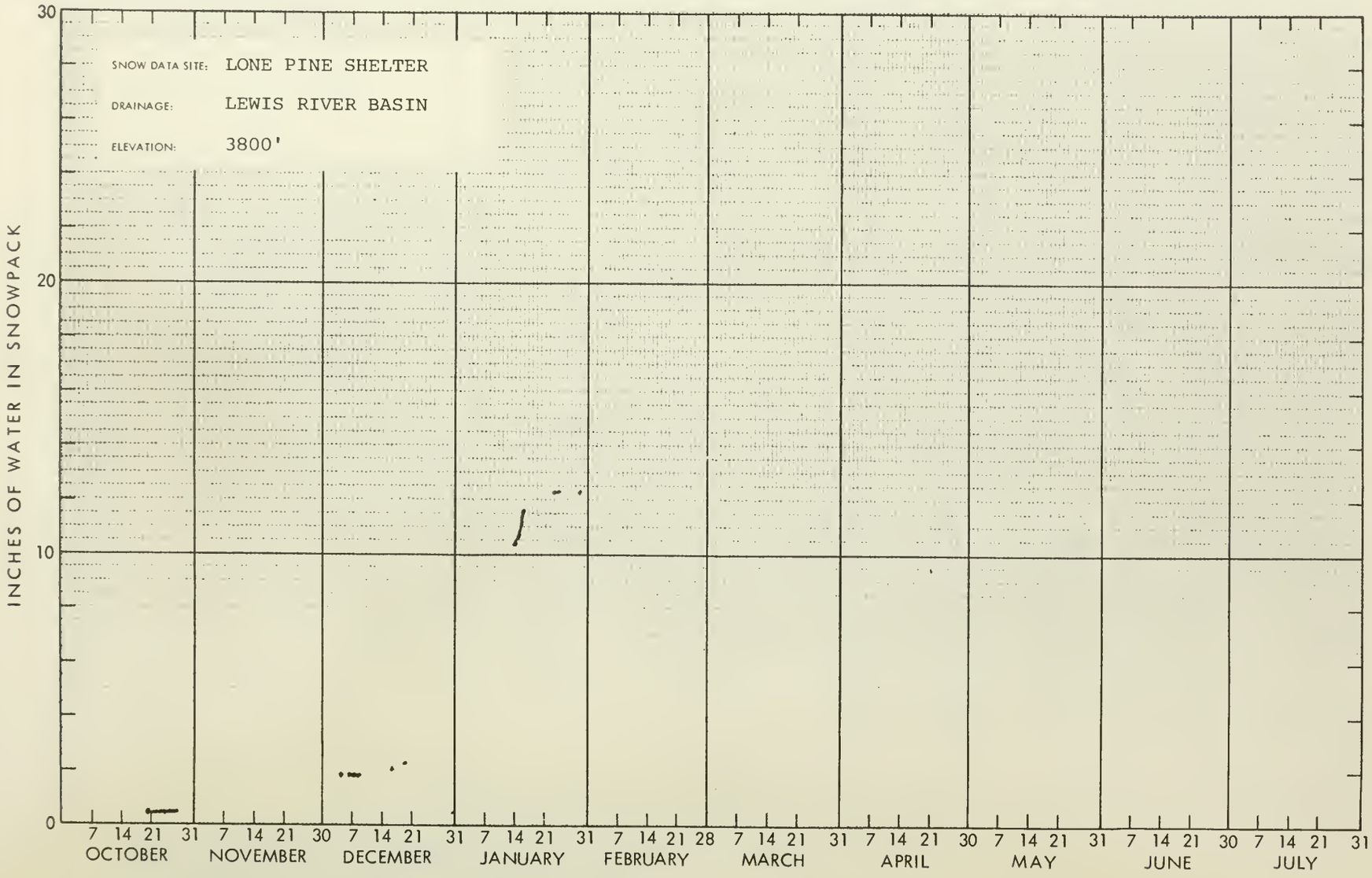
SNOW DATA SITE: LONE PINE SHELTER
DRAINAGE: LEWIS RIVER BASIN
ELEVATION: 3800'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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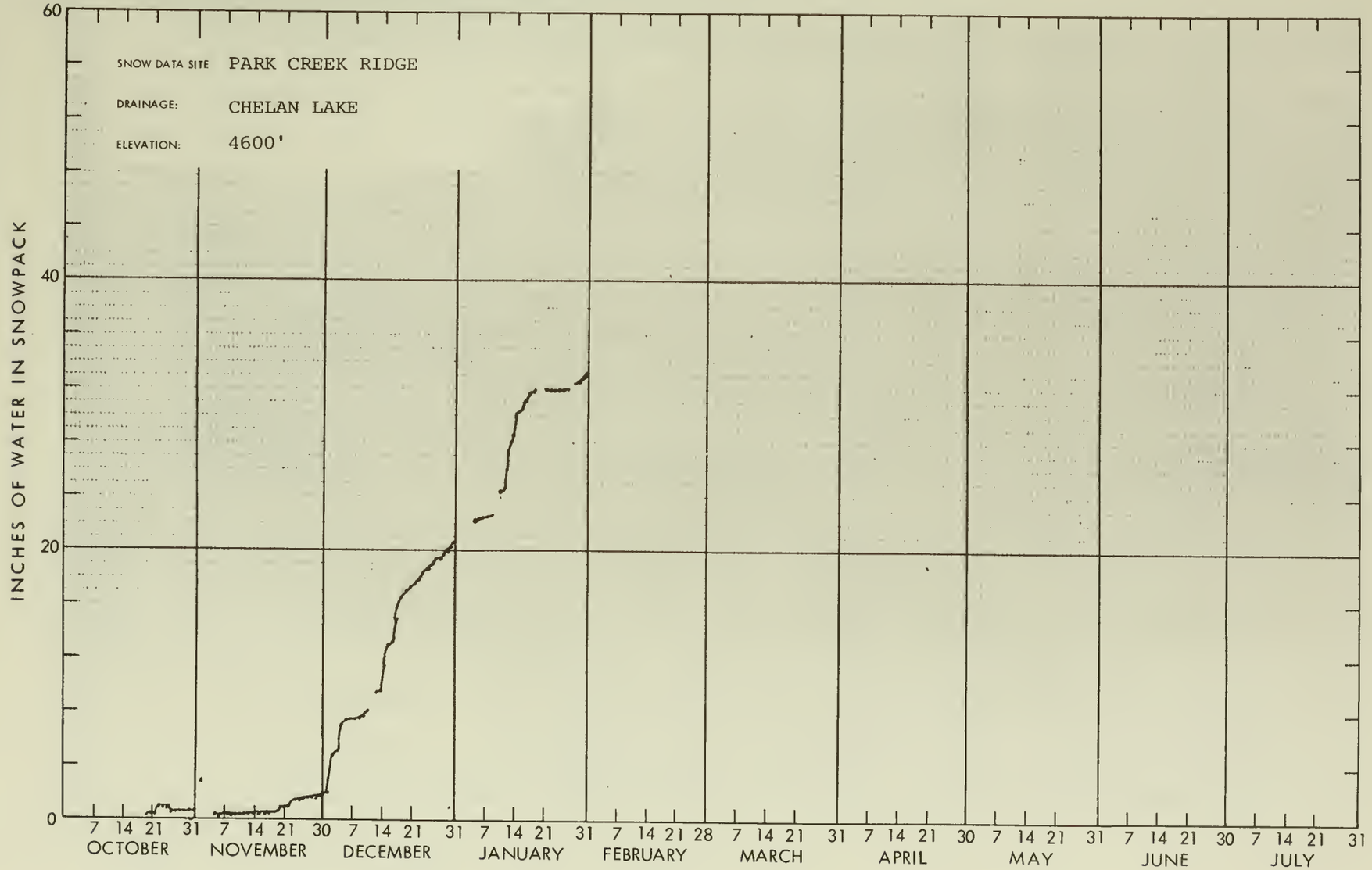
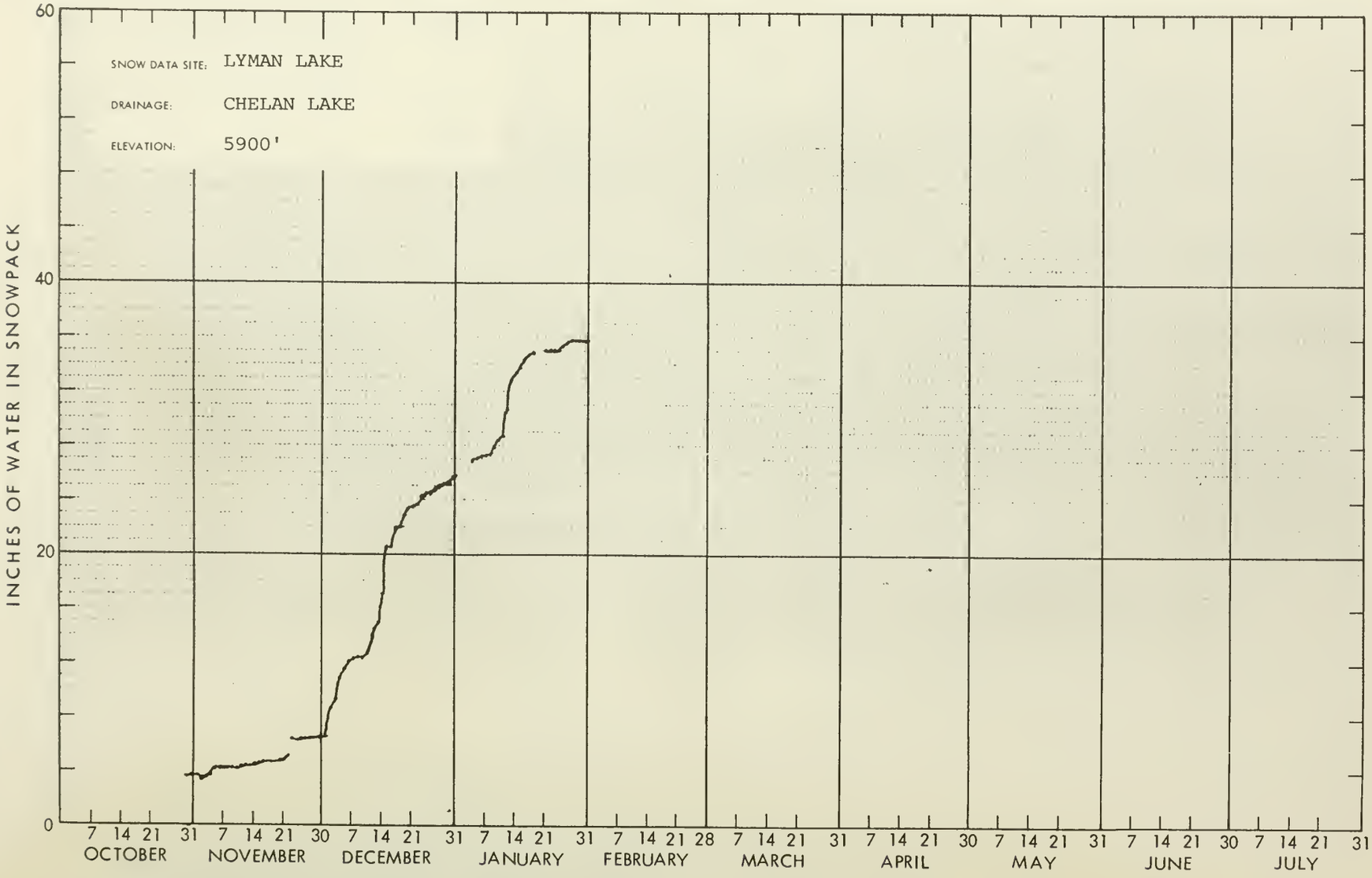
MAY
JUNE
JULY

WSFB-X13C


SNOW DATA SITE PARK CREEK RIDGE
DRAINAGE: CHELAN LAKE
ELEVATION: 4600'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

WSFB-X13C


SNOW DATA SITE: LYMAN LAKE
DRAINAGE: CHELAN LAKE
ELEVATION: 5900'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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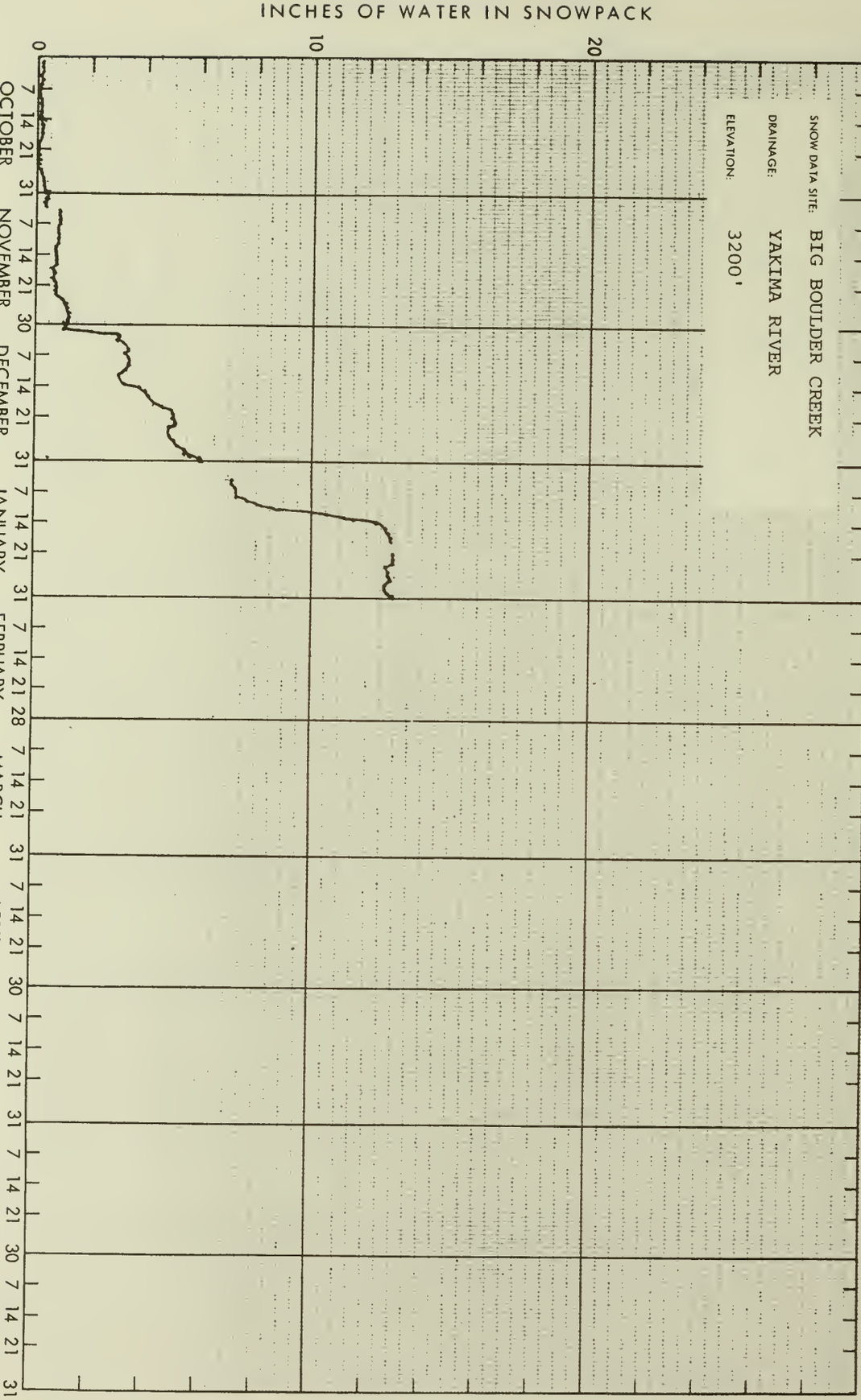
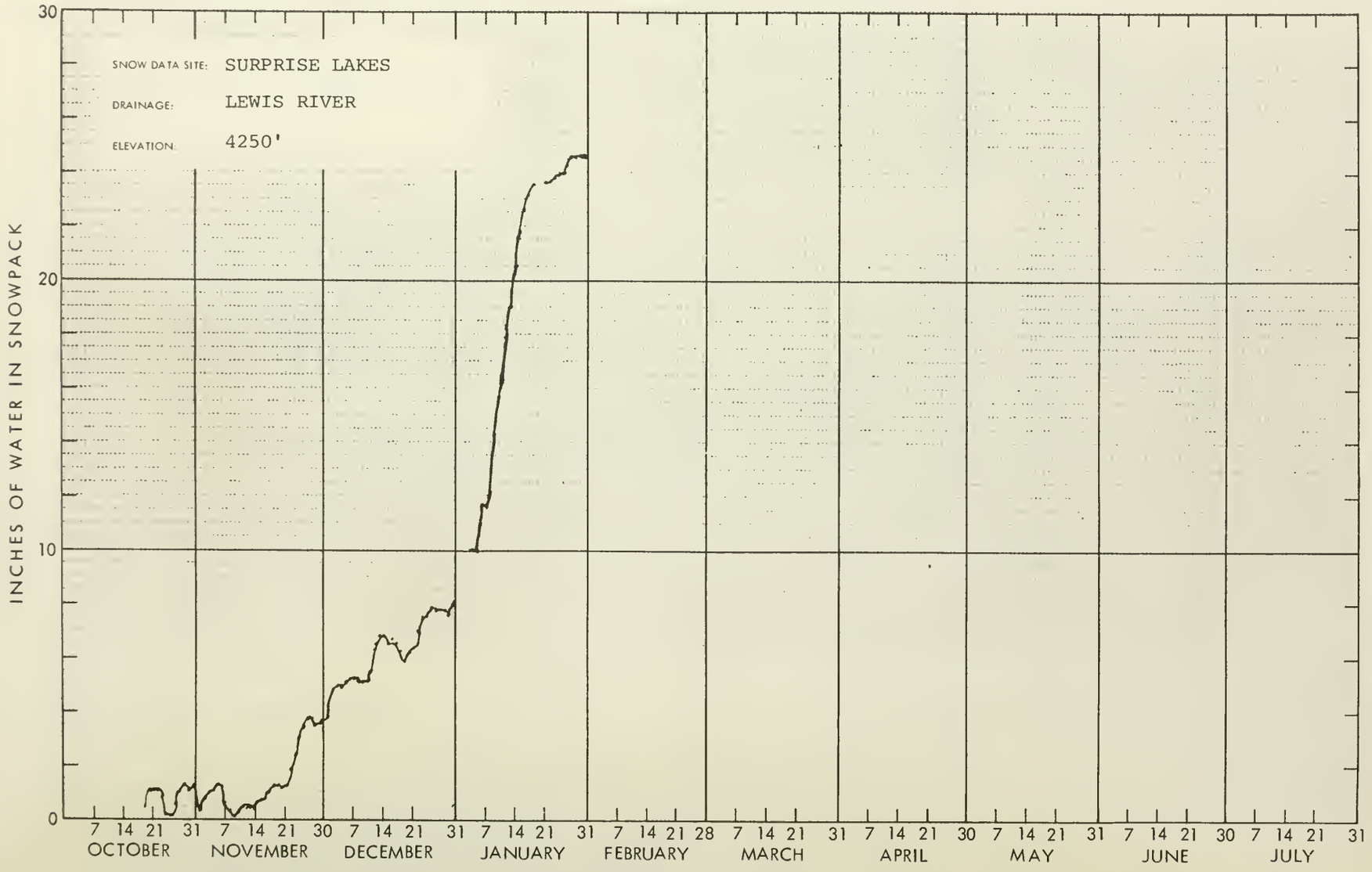

WSFB-X13B
INCHES OF WATER IN SNOWPACK
0
10
20
30
SNOW DATA SITE: BIG BOULDER CREEK
DRAINAGE: YAKIMA RIVER
ELEVATION: 3200'
7 14 21 31
OCTOBER
7 14 21 30
NOVEMBER
7 14 21 31
DECEMBER
7 14 21 31
JANUARY
7 14 21 28
FEBRUARY
7 14 21 31
MARCH
7 14 21 30
APRIL
7 14 21 31
MAY
7 14 21 30
JUNE
7 14 21 31
JULY

WSFB-X13B


SNOW DATA SITE: SURPRISE LAKES
DRAINAGE: LEWIS RIVER
ELEVATION: 4250'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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JUNE
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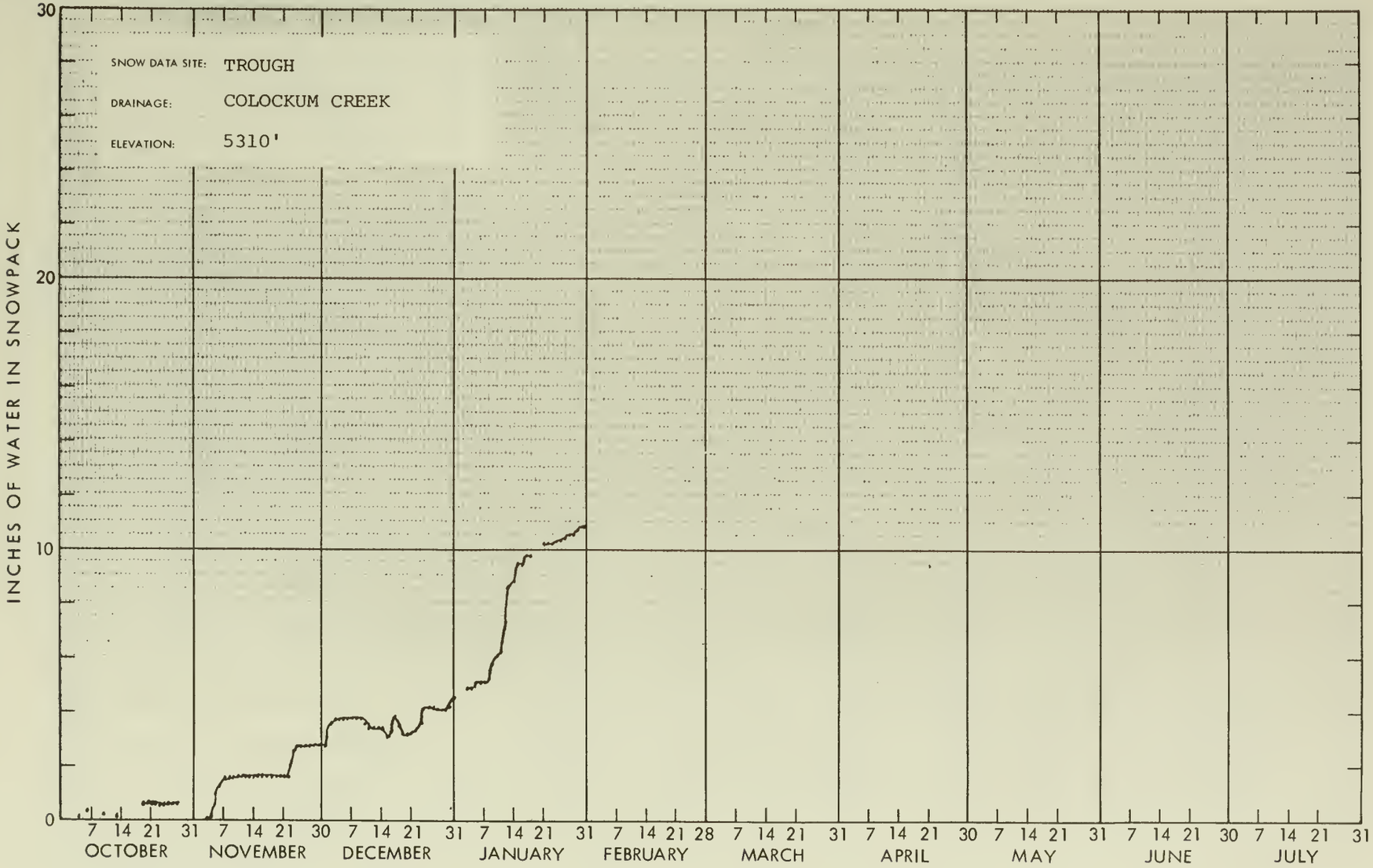
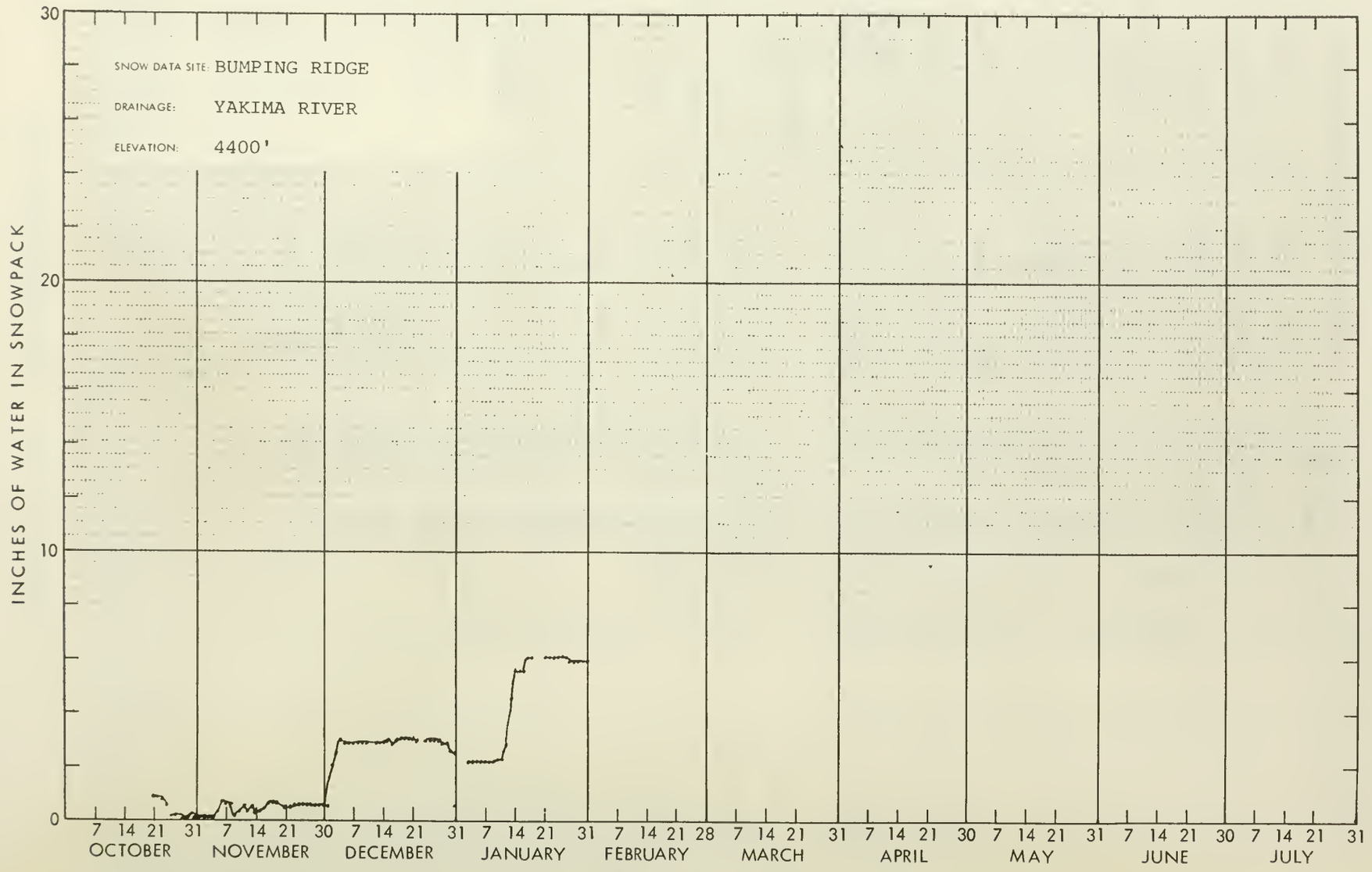

SNOW DATA SITE: TROUGH
DRAINAGE: COLOCKUM CREEK
ELEVATION: 5310'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY

WSFB-X138


SNOW DATA SITE: BUMPING RIDGE
DRAINAGE: YAKIMA RIVER
ELEVATION: 4400'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 1

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
UPPER COLUMBIA DRAINAGE							
PEND OREILLE RIVER							
Benton Meadow	16A02	2344	1/2	6	1.1	1.7	2.7
			1/30	17	3.9	3.2	5.2
Benton Spring	16A03	4900	1/2	24	5.9	3.1	7.5
			1/30	36	10.9	6.2	13.2
Chewelah	17A04	4925	2/2	36	9.4	6.5	11.5
Heart Lake Trail	14C10	4800	12/26	27	6.3	12.2	9.7
			1/26	45	13.6	14.5	12.8
Hoodoo Basin	15C10	6000	12/26	64	18.8	20.2	22.2
			1/26	87	30.0	25.4	39.7
Hoodoo Creek	15C01	5900	12/26	55	14.8	17.9	19.8
			1/26	82	27.3	22.5	37.2
Lookout	15B02	5250	12/31	36	10.4	11.2	13.8
			1/30	60	20.0	14.4	25.6
Nelson	19-Can	3050	1/2	23	5.9	3.6	7.4*
			2/1	38	7.9	4.6	11.1*
Schweitzer Bowl	16A06	4500	1/3	39	11.0	6.8	13.8
			1/31	53	18.5	9.5	23.1
Schweitzer Ridge	16A05	6100	1/3	60	19.7	11.9	21.3
			1/31	92	38.4	15.6	34.2
Winchester Creek	17A03	2970	1/28	28	6.8	3.9	8.6
KETTLE RIVER							
Barnes Creek	90-Can	5300	1/28	29	7.7	11.5	13.8*
Big White Mtn.	154-Can	5500	1/31	32	8.0	10.1	13.8*
Boulder Road	18A02	1450	1/2	3.6	0.8	1.0	2.3
			1/28	9.4	1.2	2.4	3.9
Butte Creek	18A03	4070	1/2	13	2.8	2.0	4.0
			1/28	24	4.2	2.7	6.9
Cabin Creek	18A08	3170	1/2	11	2.0	1.3	3.7
			1/28	19	3.7	2.5	9.3
Carmi	126-Can	4100	1/31	16	2.2	3.4	5.2*
Farron # 1	17-Can	4000	1/31	27	7.0	3.5	9.5*
Farron # 2	243-Can	4000	1/31	30	7.6	4.1	8.2*
Goat Creek	18A04	3595	1/2	9.6	2.1	1.5	3.5
			1/28	17	3.8	2.5	5.6
Monashee Pass	48A-Can	4500	1/1	Not Measured		7.2	7.3*
			1/28	20	4.8	8.5	9.6*
Snow Caps Creek	18A05	2150	1/2	5.6	1.2	1.8	2.5
			1/28	14	2.6	2.5	4.1
Snow Caps Trail	18A06	2720	1/2	8.6	1.7	1.5	2.9
			1/28	17	3.6	2.4	4.8
Summit G.S.	18A07	4600	1/2	10	1.9	1.7	3.5
			1/28	16	3.6	2.7	5.9
Trapping Creek Lower	166-Can	3050	1/31	12	1.8	3.2	4.3*
Trapping Creek Upper	165-Can	4450	1/31	20	4.3	6.3	7.4*

Average based on 1963-77 Average * Average for years of record

USDA SCS PORTLAND OREGON 1973

WSFR-X4-L

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average #
COLVILLE RIVER							
Baird	17A06	3215	1/31	20	4.0	4.4	5.5
Carlson	18A09	2885	2/2	18	2.7	4.0	3.7
Chewelah	17A04	4925	2/2	36	9.4	6.5	11.5
Stranger Mountain	17A05	5990	2/2	33	8.2	5.4	9.6
Togo	18A10	3370	2/2	34	9.7	4.2	8.6
SPOKANE RIVER							
Above Burke	15B08	4100	12/31	21	5.0	11.0	9.3
			1/30	37	10.2	14.2	16.4
4th of July Summit	16B03	3100	1/1	Not Measured		4.7	3.3
			1/30	15	4.2	9.6	7.3
Lookout	15B02	5250	12/31	36	10.4	11.2	13.8
			1/30	60	20.0	14.4	25.6
Mosquito Ridge	16A04	5110	1/31	59	10.2	-	-
Sherwin	16C01	3200	12/30	6	1.8	8.0	5.5
			1/30	21	5.9	11.7	10.7
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	1/31	12	2.2	6.4	5.2*
Blackwall Peak	100-Can	6250	12/27	56	14.8	-	13.2*
			1/31	67	21.2	11.7	24.0*
Brenda Mine	193-Can	4800	12/27	30	6.9	6.2	7.0*
			1/29	30	7.2	7.7	9.7*
Brookmere	27-Can	3200	12/31	13	3.9	3.6	3.3*
			1/31	24	6.1	4.3	7.0*
Carrs Landing Upper	168-Can	3200	12/29	0	0.0	-	2.0*
			1/30	6.3	1.3	3.7	3.9*
Enderby	130-Can	6250	1/1	Not Measured		11.6	15.7*
			1/30	54	17.0	13.7	24.8*
Hamilton Hill	107-Can	4900	1/29	37	10.6	7.9	10.4*
Harts Pass	20A05A	6500	1/30	86	27.3	18.4	32.7
Horseshoe Basin +	19A05a	7000	1/29	42	10.5	-	12.8
Isontok Lake	152-Can	6300	12/30	17	3.9	3.8	4.2*
			1/27	18	3.5	5.5	6.3*
Lost Horse Mtn.	105-Can	6300	1/31	25	5.2	4.9	6.7*
Loup Loup	19A07	4650	1/30	31	6.9	1.5	7.4
McCulloch	4-Can	4200	12/28	9.8	1.5	3.7	3.4*
			1/31	16	2.5	4.1	4.9*
Missezula Mtn.	106-Can	5100	1/28	24	5.9	5.5	6.9*
Mission Creek	5A-Can	6000	12/28	20	4.4	8.5	9.4*
			1/28	28	6.9	10.6	13.7*
Monashee Pass	48A-Can	4500	1/1	Not Measured		7.2	7.3*
			1/28	20	4.8	8.5	9.6*
Mount Kobau	156-Can	5950	12/31	22	4.5	1.6	2.1*
			1/31	28	6.7	2.4	9.6*

\# Average based on 1963-77 Average
* Average based on years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND, OREGON 1973

SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
OKANOGAN RIVER (Cont.)							
Muckamuck +	19A09a	6390	2/1	Not Measured		3.2	11.4
Mutton Creek No. 1	19A01	5700	1/28	32	8.5	1.7	10.8
Mutton Creek No. 2SP	19A11SP	6000	1/28		5.7	1.0	New
New Copper Mtn.	48A-Can	4300	1/30	18	3.5	4.3	5.2*
New Penticton Res. #2	183-Can	5225	2/1	20	3.5	4.4	6.9*
Oyama Lake	203-Can	4400	1/30	14	2.0	5.6	5.7*
Paysayten +	20A28a	4300	1/29	42	10.5	4.5	14.2
Postill Lake	55-Can	4500	1/30	16	3.2	5.8	5.9*
Rusty Creek	19A03	4000	1/29	20	5.0	1.6	5.6
Salmon Meadows	19A02	4500	1/28	32	7.3	1.4	7.7
Silver Star Mountain	99-Can	6050	12/30	30	8.1	8.8	14.3*
			1/28	38	10.9	11.2	19.1*
Starvation Mountain +	19A10a	6750	1/29	50	12.5	3.8	13.8
Summerland Reservoir	3A-Can	4200	12/31	10	2.4	4.7	5.0*
			1/26	21	5.5	6.5	7.7*
Touts Coulee	19A06	2845	1/29	11	1.6	1.0	3.1
Trout Creek	3-Can	4700	1/28	17	3.9	5.6	5.2*
Vaseux Creek	233-Can	4600	12/30	11	2.0	1.7	2.5*
			1/28	17	3.2	2.6	4.8*
White Rocks Mtn.	70-Can	6000	12/31	26	6.3	8.5	13.1*
			1/30	34	10.2	12.8	18.3*
METHOW RIVER							
Harts Pass	20A05A	6500	1/30	86	27.3	18.4	32.7
Horseshoe Basin +	19A05A	7000	1/29	42	10.5	-	12.8
Loup Loup	19A07	4650	1/30	31	6.9	1.5	7.4
Mutton Creek No. 1	19A01	5700	12/8	32	8.5	1.7	10.8
Mutton Creek No. 2 SP	19A11SP	6000	1/28		5.7	1.0	New
Rusty Creek	19A03	4000	1/29	20	5.0	1.6	5.6
Salmon Meadows	19A02	4500	1/28	32	7.3	1.4	7.7
War Creek Pass +	20A31a	6500	2/1	Not Measured		13.8	36.2
CHELAN LAKE BASIN							
Cloudy Pass +	20A22a	6500	2/1	Not Measured		20.1	30.0
Little Meadows +	20A24a	5275	1/29	90	25.2	20.4	30.7
Lyman Lake +	20A23A	5900	2/1	Not Measured		25.2	39.7
Park Creek Flat +	20A13a	2220	1/29	66	18.5	13.5	26.8
Park Creek Ridge	20A12A	4600	1/29	94	26.3	20.1	36.9
Rainy Pass	20A09	4780	1/30	71	22.3	15.4	30.9
War Creek Pass +	20A31a	6500	2/1	Not Measured		13.8	36.2

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND, OREGON 1973

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SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average #
ENTIAT RIVER							
Blue Creek G.S. +	20B28a	5425	1/28	84	25.2	17.4	New
Brief	20B19	1600	1/28	27	5.9	5.1	7.0
Entiat Meadows +	20A33a	4540	1/28	102	30.6	8.4	40.0
Entiat River Trail +	20A34a	3325	1/28	58	14.5	7.9	20.0
Four Mile Ridge +	20B27a	6800	1/28	72	21.6	10.1	30.9
Fox Camp +	20A36a	6510	1/28	122	36.6	15.7	44.7
Pope Ridge	20B20	3450	1/30	47	11.7	6.8	15.2
Pugh Ridge	20A32a	6725	1/28	73	21.9	17.6	29.5
Shady Pass	20A37	6200	1/29	58	17.2	10.4	20.7
Snow Brushy +	20A35a	3910	1/28	81	20.3	9.9	30.5
Tommy Creek +	20B21a	4900	1/28	52	15.6	8.4	22.5
WENATCHEE RIVER							
Berne-Mill Creek	21B23	3170	11/29	6.1	1.0	3.8	4.5
			12/13	26	5.4	8.4	7.8
			12/28	23	8.1	12.0	11.0
			1/14	60	14.8	14.6	16.2
			1/30	55	16.8	14.5	21.5
Berne-Mill Creek New	21B41SP	3240	11/29	5.2	1.0	4.2	4.5
			12/28	17	5.9	12.1	11.6
			1/30	48	15.8	14.4	20.0
Blewett Pass No. 2	20B02	4270	12/26	16	4.5	5.9	6.5
			1/24	37	10.2	9.1	13.2
Chiwaukum G.S.	20B16	1810	11/29	5	1.0	2.0	1.5
			12/13	18	3.1	3.4	3.2
			12/28	18	4.4	4.9	4.8
			1/14	37	9.1	5.4	7.0
			1/30	33	8.9	5.9	9.5
Lake Wenatchee	20B05	1970	11/29	4	0.7	3.0	1.6
			12/13	19	3.5	4.6	3.6
			12/28	15	4.4	6.9	5.9
			1/14	38	9.3	8.0	9.5
			1/30	34	9.7	9.6	11.8
Leavenworth R.S.	20B17	1127	11/1	0	0.0	0.0	0.0
			11/15	0	0.0	0.0	0.1
			11/28	3.5	0.4	1.3	0.7
			12/14	4.0	1.5	2.3	1.7
			12/27	6	0.9	3.1	3.1
			1/14	23	4.1	4.0	4.8
			1/28	20	3.8	3.7	5.9
Lyman Lake +	20A23A	5900	2/1	Not Measured		25.2	39.7
Merritt	20B18	2140	11/29	4	0.8	3.0	2.3
			12/13	11	2.4	5.3	4.8
			12/28	11	3.4	7.0	7.1
			1/14	38	8.8	8.9	11.2
			1/30	33	10.0	9.9	14.0

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

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SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 5

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR: Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD: Water Content (inches) Last Year	Average #
WENATCHEE RIVER (Cont.)							
Stevens Pass	21B01	4070	11/29	13	3.4	5.1	8.1
			12/13	44	9.8	11.8	14.7
			12/28	47	16.1	19.7	21.9
			1/14	86	25.3	23.0	30.1
			1/30	80	28.3	23.7	37.3
Stevens Pass Sand Shed	21B45	3700	11/29	6.2	1.4	3.7	6.4
			12/13	28	6.1	9.7	11.2
			12/28	30	10.0	15.3	15.3
			1/14	64	16.2	-	21.8
			1/30	58	19.0	17.8	26.8
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	1/30	32	8.1	3.7	11.7
Colockum Creek Lower	20B23	4300	1/30	38	9.0	4.2	8.5
Trough # 2	20B25SP	5310	1/30	38	11.5	4.5	New
SQUILCHUCK CREEK							
Beehive Springs	20B03	4400	1/28	29	7.1	4.3	6.7
Scout-A-Vista	20B04	3400	1/28	36	7.0	4.3	6.9
STEMILT CREEK							
Jump-Off	20B08	4450	1/30	34	8.4	5.4	7.1
Stemilt Slide	20B06	5000	1/28	44	11.1	6.0	11.2
Upper Wheeler	20B07	4400	1/28	36	9.1	5.4	8.4
YAKIMA RIVER							
Ahtanum R.S.	21C11	3100	12/26	11	2.8	2.5	3.2
			1/28	34	7.8	4.6	6.1
Blewett Pass No. 2	20B02	4270	12/26	16	4.5	5.9	6.5
			1/24	37	10.2	9.1	13.2
Bumping Lake Old	21C08	3450	12/4	19	4.2	-	2.4
			12/28	14	5.1	3.2	6.5
			1/11	40	7.9	5.1	10.4
			1/29	46	12.8	4.8	13.3
Bumping Lake New	21C36	3400	12/4	22	4.2	1.4	3.7
			12/28	18	5.3	4.4	8.3
			1/11	36	7.9	5.9	14.2
			1/29	52	14.6	5.2	16.8
Cayuse Pass	21C06	5300	1/1	Not Measured		21.8	34.4
			2/1	Not Measured		27.1	59.5
Colockum Pass	20B09	5370	2/1	Not Measured		6.5	11.8
Cooke Creek	20B10	4123	2/1	Not Measured		2.2	5.3
Corral Pass	21B13	6000	1/28	64	20.0	19.1	-
Green Lake	21C10	6000	1/28	68	23.4	12.8	19.4
Grouse Camp	20B11	5385	2/1	Not Measured		7.8	12.3
High Creek	20B12	2930	2/1	Not Measured		3.4	5.5
Joe Lake +	21B46a	4624	1/27	99	27.9	35.5	41.8

\# Average based on 1963-77 Average

\+ Snow Water equivalent estimated from aerial stadia observation

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SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
YAKIMA RIVER (Cont.)							
Lake Cle Elum	21B14M	2200	11/29	7.7	0.5	2.3	1.1
			12/26	4.8	1.4	3.8	3.9
			1/14	30	4.4	4.8	7.1
			1/30	26	6.2	5.3	8.5
Lemah Creek +	21B47a	3327	1/27	84	23.7	25.5	31.0
Manashtash	20C01	3935	1/29	26	5.8	2.9	4.3
Morse Lake	21C17	5400	1/31	94	33.9	19.3	38.9
Nanum	20B13	3875	2/1	Not Measured		3.9	7.4
Olallie Meadows	21B02	3625	1/28	49	16.6	22.8	34.8
Satus Pass	20D01	4030	1/31	24	6.6	3.7	8.9
Stampede Pass SP	21B10	3860	11/29	15	2.1	5.3	7.5
			12/17	29	9.3	11.1	14.0
			12/31	34	10.3	22.3	17.4
			1/14	76	18.8	21.9	24.8
			1/31	70	18.3	23.4	31.5
Trail Creek	20B14	3360	2/1	Not Measured		2.6	2.9
Tunnel Avenue	21B08	2450	11/30	8.4	0.5	3.8	3.1
			12/26	15	5.2	6.7	8.4
			1/15	49	12.0	8.7	13.7
			1/28	46	13.0	10.0	17.8
Van Epps Pass +	20B26a	5925	1/27	80	22.6	36.2	39.4
Walters Flat	20B15	3360	2/1	Not Measured		3.6	6.5
Waptus Lake +	21B49a	3024	1/27	63	17.8	26.6	32.2
White Pass (E. Side)	21C28	4500	12/3	16	3.4	3.3	4.6
			12/27	16	4.4	-	10.5
			1/10	59	10.1	8.7	14.4
			1/29	54	15.2	11.7	18.4
AHTANUM CREEK							
Ahtanum R.S.	21C11	3100	12/26	11	2.8	2.5	3.2
			1/28	34	7.8	4.6	6.1
Green Lake	21C10	6000	1/28	68	23.4	12.8	19.4
LOWER COLUMBIA DRAINAGE							
ASOTIN CREEK							
Spruce Springs	17C04	5700	1/28	46	13.8	13.8	18.2
MILL CREEK							
Homestead	17C01	4030	1/30	27	6.5	8.1	7.2
Martin Springs	17C02	4400	1/30	35	8.9	11.0	10.3
Tollgate	18D03M	5070	1/29	50	16.1	17.5	17.7

Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

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SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
KLICKITAT RIVER							
Satus Pass	20D01	4030	1/31	24	6.6	3.7	8.9
COWLITZ RIVER							
Cayuse Pass	21C06	5300	1/1	Not Measured		21.8	34.4
			2/1	Not Measured		27.1	59.5
White Pass (E. Side)	21C28	4500	12/3	16	3.4	3.3	4.6
			12/27	16	4.4	-	10.5
			1/10	59	10.1	8.7	14.4
			1/29	54	15.2	11.7	18.4
PUGET SOUND DRAINAGE							
WHITE RIVER							
Cayuse Pass	21C06	5300	1/1	Not Measured		21.8	34.4
			2/1	Not Measured		27.1	59.5
Corral Pass	21B13	6000	1/28	64	20.0	19.1	-
Morse Lake	21C17	5400	1/31	94	33.9	19.3	38.9
GREEN RIVER							
Airstrip	21B24	1800	12/10	Trace	0.0	0.8	0.6
			12/28	0	0.0	1.2	1.8
			1/27	18	4.8	3.7	5.6
Charley Creek	21B25	1200	12/10	0	0.0	0.0	0.1
			12/28	0	0.0	0.0	1.5
			1/27	6.5	1.5	2.2	1.3
Cougar Mountain	21B42SP	3200	1/28	28	9.3	12.0	17.3
Grass Mtn. No. 2	21B27	2900	12/10	Trace	0.0	1.8	2.1
			12/28	Trace	0.0	2.8	5.8
			1/27	35	10.1	8.5	15.2
Grass Mtn. No. 3	21B28	2100	12/10	Trace	0.0	-	0.5
			12/28	0	0.0	1.3	2.2
			1/27	12	3.8	4.8	5.2
Lester Creek	21B29	3100	12/10	12	3.2	1.9	2.7
			12/28	11	3.1	10.1	8.5
			1/27	52	13.4	13.0	17.5
Lynn Lake	21B50	4000	12/10	Trace	0.0	0.7	2.7
			12/28	5	1.3	9.9	8.5
			1/27	28	8.7	14.9	18.2
Sawmill Ridge	21B31	4700	12/10	14	3.7	2.0	5.6
			12/28	27	7.4	13.6	13.7
			1/27	59	17.8	16.3	27.5
Snowshoe Butte	21B43SP	5000	1/28	83	29.1	26.6	40.8

Average based on 1963-77 average

USDA SCS PORTLAND, OREGON 1973

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SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average #
GREEN RIVER (Cont.)							
Stampede Pass SP	21B10	3860	11/29	15	2.1	5.3	7.5
			12/17	29	9.3	11.1	14.0
			12/31	34	10.3	22.3	17.4
			1/14	76	18.8	21.9	24.8
			1/31	70	18.3	23.4	31.5
Twin Camp	21B30	4100	12/10	11	2.8	2.4	3.4
			12/28	13	4.3	12.0	9.4
			1/27	49	13.1	14.3	18.4
SNOQUALMIE RIVER							
Olallie Meadows	21B02	3625	1/28	49	16.6	22.8	34.8
SKYKOMISH RIVER							
Stevens Pass	21B01	4070	11/29	13	3.4	5.1	8.1
			12/13	44	9.8	11.8	14.7
			12/28	47	16.1	19.7	21.9
			1/14	86	25.3	23.0	30.1
			1/30	80	28.3	23.7	37.3
Stevens Pass Sand Shed	21B45	4070	11/29	6.2	1.4	3.7	6.4
			12/13	28	6.1	9.7	11.2
			12/28	30	10.0	15.3	15.3
			1/14	64	16.2	-	21.8
			1/30	58	19.0	17.8	26.8
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	1/29	28	7.9	6.6	12.2
Beaver Pass	21A01	3680	1/29	50	15.5	8.3	24.4
Brown Top Ridge +	21A28a	6000	1/29	102	34.0	21.1	48.0
Cloudy Pass +	20A22a	6500	2/1	Not Measured		20.1	30.0
Devils Park	20A04	5900	1/30	81	26.8	18.3	34.0
Freezeout Creek Trail	20A01	3500	1/29	30	7.5	5.5	11.5
Freezeout Meadows New	20A38	5000	1/29	52	15.6	-	28.2
Granite Creek	21A29A	3500	1/30	38	10.2	9.4	16.3
Harts Pass	20A05A	6500	1/30	86	27.3	18.4	34.5
Klesilkwa	35B-Can	3700	1/25	19	4.2	6.3	9.9*
Lyman Lake	20A23A	5900	2/1	Not Measured		25.2	39.7
Meadow Cabins	20A08	1900	1/30	15	4.2	7.1	6.9
New Hozomeen Lake	21A30	2800	1/29	29	7.6	5.6	10.5
New Tashme	26A-Can	2500	2/1	Late Report		7.7	8.5*
Rainy Pass	20A09	4780	1/30	71	22.3	15.4	30.9
Thunder Basin	20A07	4200	1/30	31	8.2	11.8	17.4

\# Average based on 1963-77 average

* Average for years of record

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

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SNOW DATA TO FEBRUARY 1, 1980 - APPENDIX 9

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Average #
BAKER RIVER							
Dock Butte +	21A11A	3800	11/28	25	7.0	-	10.1
			12/27	40	12.0	-	28.7
			1/30	68	24.0	31.0	47.4
Easy Pass +	21A07A	5200	11/28	29	9.0	-	10.1
			12/27	72	22.0	9.0	32.8
			1/30	96	34.0	15.0	51.7
Jasper Pass +	21A06A	5400	11/28	35	10.0	-	18.2
			12/27	96	29.0	28.0	44.6
			1/30	120	42.0	35.0	69.3
Marten Lake	21A09A	3600	11/28	20	6.0	-	15.0
			12/27	48	14.0	27.0	36.6
			1/30	98	34.0	38.0	55.4
Mt. Blum +	21A18a	5800	11/28	12	4.0	-	11.1
			12/27	60	18.0	15.0	33.1
			1/30	74	26.0	15.0	48.4
Panorama New	21A26	4300	12/27	70	27.8	-	-
			1/13	96	31.0	18.8	38.9
			1/27	93	38.5	18.2	48.7
Rocky Creek	21A12A	2100	11/28	10	3.0	-	3.3
			12/27	14	4.0	-	14.4
			1/30	37	13.0	-	24.7
Schreibers Meadow	21A10A	3400	11/28	15	4.0	-	8.6
			12/27	36	11.0	16.0	26.0
			1/30	62	22.0	22.0	41.0
S. Thunder Creek +	21A14A	2200	12/27	10	3.0	-	6.0
			1/30	18	6.0	6.0	10.0
Watson Lakes	21A08A	4500	11/28	24	7.0	-	10.0
			12/27	46	14.0	19.0	29.4
			1/30	70	25.0	25.0	44.4
NOOKSACK RIVER							
Glacier Creek	21A23	3700	12/1	Not Measured		1.0	6.9
			1/1	Not Measured		-	7.4
			1/31	13	4.9	13.0	19.7
Panorama New	21A26	4300	12/30	70	27.8	-	-
			1/13	96	31.0	18.8	38.9
			1/27	93	38.5	18.2	48.7
OLYMPIC PENINSULA							
DUNGENESS RIVER							
Deer Park	23B04	5200	1/30	30	10.4	9.1	15.2
MORSE CREEK							
Cox Valley	23B14	4500	1/27	54	18.6	14.8	29.1
ELWHA RIVER							
Hurricane	23B03	4500	1/27	23	5.9	7.8	16.4

+Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

Average based on 1963-77 average

PRECIPITATION STORAGE GAGES

Amount of precipitation in inches that has accumulated since the previous measurement.

BAW FAW PEAK

Not reported

BIG BOULDER CREEK

10/1/78	Recharge
11/1/78	4.2
12/1/78	18.6
1/1/79	0.7
2/1/79	3.6
3/1/79	11.9
4/1/79	4.1
5/1/79	-3.5
6/1/79	-2.6
7/1/79	0.2
8/1/79	Recharge
11/1/79	1.5
12/1/79	2.9
1/4/80	18.2
2/1/80	5.5

BUMPING RIDGE

10/1/78	Recharge
12/1/78	3.5
1/1/79	6.3
2/1/79	1.8
3/1/79	13.5
4/1/79	1.7
5/1/79	2.0
6/1/79	1.1
7/1/79	0.5
8/1/79	1.1
9/1/79	0.5
10/1/79	Recharge
11/1/79	11.4
12/1/79	6.0
1/4/80	11.2
2/1/80	13.6

CANTON CREEK

10/3/78	Recharge
11/1/78	2.5
1/31/79	23.8
3/9/79	24.1
4/10/79	3.2
5/7/79	4.5
6/1/79	1.8
7/3/79	2.7
8/1/79	1.1
9/5/79	2.7
10/1/79	0.9

CARNATION 15E

8/16/78	Recharge
9/5/78	4.69
10/3/78	9.37
11/4/78	6.61
5/5/79	65.39
6/1/79	4.68
7/1/79	0.86
8/7/79	4.47
8/7/79	Recharge
9/1/79	0.64
10/2/79	3.84
11/1/79	7.89
12/4/79	9.37
1/3/80	27.90

CEDAR FALLS 4SE

8/17/78	Recharge
9/5/78	6.60
10/2/78	7.24
11/2/78	3.41
4/30/79	66.03
6/1/79	4.48
7/2/79	2.98
7/31/79	1.92
7/31/79	Recharge
9/4/79	2.56
10/1/79	1.06
11/2/79	7.88
12/6/79	7.24
1/3/80	17.47

CEDAR FALLS 5SE

8/11/78	Recharge
9/6/78	4.26
10/2/78	6.18
11/3/78	2.98
4/30/79	41.75
6/4/79	1.59
7/2/79	2.98
8/3/79	1.06
8/3/79	Recharge
9/5/79	2.13
10/1/79	0.42
11/2/79	5.76
12/3/79	2.98
1/3/80	15.97

CEDAR FALLS 7SE

8/15/78	Recharge
9/5/78	4.05
10/2/78	7.03
11/2/78	2.76
5/1/79	59.01
6/1/79	3.19
7/2/79	3.20
8/3/79	0.85
8/3/79	Recharge
9/4/79	3.41
10/1/79	1.28
11/2/79	7.25
12/3/79	5.32
1/3/80	21.30

CEDAR FALLS 7SSE

8/15/78	Recharge
9/5/78	1.49
10/2/78	6.39
11/2/78	3.20
4/30/79	69.43
6/1/79	4.05
7/2/79	3.20
8/3/79	1.06
9/4/79	3.40
10/1/79	1.07
11/2/79	7.88
12/6/79	8.31
1/3/80	19.81

CEDAR FALLS 8SE

8/11/78	Recharge
9/5/78	4.68
10/2/78	6.17
11/2/78	1.28
4/30/79	47.71
6/4/79	2.56
7/2/79	2.13
7/31/79	1.06
7/31/79	Recharge
9/4/79	2.55
10/1/79	0.64
11/2/79	6.18
12/3/79	3.83
1/3/80	17.04

PRECIPITATION STORAGE GAGES (Continued)

CEDAR FALLS 10SE

8/15/78	Recharge
9/5/78	3.40
10/2/78	7.46
11/2/78	3.19
4/30/78	71.14
6/1/79	3.40
7/2/79	4.69
8/3/79	1.27
8/3/79	Recharge
9/4/79	1.07
10/1/79	1.28
11/2/79	8.30
12/6/79	9.59
1/3/80	21.30

CONSULTANT CREEK

8/16/78	Recharge
9/5/78	4.50
10/3/78	9.22
11/4/78	9.44
5/5/79	80.33
6/1/79	-3.82
7/1/79	2.03
8/7/79	4.05
8/7/79	Recharge
9/1/79	1.34
10/2/79	4.28
11/1/79	7.88
12/5/79	11.02
1/3/80	10.58

DRY CREEK

8/17/78	Recharge
9/5/78	4.72
10/3/78	9.22
11/4/78	11.02
5/6/79	70.88
6/1/79	5.18
7/1/79	1.80
8/8/79	4.94
8/8/79	Recharge
9/1/79	1.35
10/2/79	4.72
11/1/79	8.10
12/4/79	8.10
1/3/80	24.52

FISH LAKE

8/10/78	Recharge
6/27/79	43.25

FROZEN MOUNTAIN

8/17/78	Recharge
9/5/78	2.15
10/5/78	12.93
11/4/78	9.22
5/6/79	76.28
6/1/79	3.60
7/1/79	2.02
8/8/79	Empty
8/8/79	Recharge
9/1/79	0.45
10/2/79	4.51
11/1/79	9.67
12/5/79	11.48
1/4/80	31.50

GLACIER CREEK

10/5/78	Recharge
5/31/79	63.20
9/12/79	12.05

GRASS MTN. #1

10/3/78	Recharge
11/1/79	2.9
12/13/79	22.3
1/31/79	14.2
3/9/79	24.8
4/2/79	2.2
5/3/79	5.6
6/1/79	2.0
7/3/79	2.7
7/31/79	1.6
9/5/79	2.9
10/1/79	1.1

GREEN RIVER II

10/5/78	Recharge
11/27/78	7.2
4/9/79	29.0
5/2/79	2.7
5/29/79	1.1
7/2/79	1.4
8/3/79	0.9
10/1/79	2.9

LESTER 5NNE

8/17/78	Recharge
9/6/78	2.77
10/2/78	5.96
11/2/78	1.49
6/1/79	62.84
7/31/79	4.68
7/31/79	Recharge
9/4/79	3.41
10/2/79	1.07
11/2/79	5.33

LESTER 7NNW

8/14/78	Recharge
9/6/79	4.90
10/3/79	4.68
11/2/78	2.35
6/4/79	62.62
7/2/79	2.56
8/1/79	1.27
8/1/79	Recharge
9/4/79	3.62
10/2/79	1.50
11/2/79	5.54

LESTER 8NNW

8/14/78	Recharge
9/6/78	3.20
10/3/78	5.11
11/2/78	1.91
6/4/79	58.37
7/2/79	2.76
8/1/79	0.85
8/1/79	Recharge
9/4/79	3.19
10/2/79	1.71
11/2/79	5.54
12/3/79	5.75
1/3/79	21.72

LESTER 8N

8/14/78	Recharge
9/6/78	3.83
10/2/78	6.82
11/2/78	1.70
6/4/79	63.05
7/2/79	3.20
8/1/79	1.06
8/1/79	Recharge
9/5/79	2.77
10/2/79	1.71
11/2/79	5.32

LESTER 10NNW

8/17/78	Recharge
9/5/78	5.11
10/3/78	7.24
11/3/78	3.84
4/30/79	59.21
6/1/79	2.98
7/2/79	3.20
7/31/79	1.06
7/31/79	Recharge
9/4/79	4.04
10/1/79	0.86
11/2/79	2.98
12/3/79	9.37
1/3/80	22.36

PRECIPITATION STORAGE GAGES (Continued)

LESTER 11NW

8/11/78	Recharge
9/6/78	4.90
10/2/78	6.39
11/3/78	2.77
4/30/79	53.67
6/4/79	2.56
7/2/79	2.34
8/1/79	1.49
8/1/79	Recharge
9/5/79	2.77
10/1/79	1.28
11/2/79	5.54
12/3/79	5.12
1/3/80	19.59

LYMAN LAKE

10/1/79	Recharge
11/1/79	6.4
12/1/79	2.6
1/1/80	16.2
2/1/80	9.2

MIDDLE FORK NOOKSACK

10/4/78	Recharge
6/6/79	62.65
9/13/79	9.85

MIDDLE FORK TAYLOR

8/4/78	Recharge
9/5/78	2.55
10/1/78	10.23
11/1/78	1.70
5/1/79	57.08
6/3/79	3.62
7/2/79	3.84
8/10/79	1.92
8/10/79	Recharge
9/4/79	2.13
10/1/79	2.34
11/5/79	9.38
12/1/79	4.90
1/3/80	20.02

MORSE LAKE

10/1/78	Recharge
12/1/78	9.0
1/1/79	8.4
2/1/79	3.5
3/1/79	9.1
4/1/79	13.5
5/1/79	5.3
6/1/79	2.9
7/1/79	1.4

MORSE LAKE (Cont.)

8/1/79	1.5
9/1/79	2.3
10/1/79	Recharge
11/1/79	8.5
12/1/79	5.2
1/4/80	20.9
2/1/80	7.0

MT. INDEX

8/17/78	Recharge
9/5/78	5.62
10/3/78	9.90
11/4/78	9.22
5/6/79	70.43
6/1/79	11.25
7/1/79	2.25
8/8/79	5.62
8/8/79	Recharge
9/1/79	0
10/2/79	5.18
11/1/79	8.78
12/5/79	9.68
1/3/80	28.12

NORTH FORK TAYLOR

8/4/78	Recharge
9/5/78	4.48
10/1/78	8.52
11/4/78	7.89
5/1/79	43.02
6/3/79	4.05
7/2/79	3.41
8/10/79	1.06
8/10/79	Recharge
9/1/79	2.77
10/1/79	2.77
11/5/79	6.17
12/1/79	4.90

PARK CREEK RIDGE

10/1/78	Recharge
1/1/79	17.1
3/1/79	19.6
4/1/79	0.4
5/1/79	2.7
6/1/79	1.2
7/1/79	1.5
8/1/79	1.2
9/1/79	0.7
10/1/79	Recharge
11/1/79	4.8
12/1/79	2.2
1/4/80	23.0
2/1/80	8.5

PORT ANGELES 11S

8/16/78	Recharge
8/20/79	37.65

RUSTY CREEK

9/29/78	Recharge
10/30/78	0.20
11/28/78	1.15
12/29/78	0.55
1/31/79	0.70
2/27/79	1.90
3/30/79	0.70
4/30/79	0
5/29/79	1.75
6/28/79	0.95
7/26/79	0.45
8/27/79	1.30
9/27/79	1.20
10/26/79	2.50
11/28/79	2.50
12/27/79	3.90
1/29/80	4.10

SALMON MEADOWS

8/29/78	Recharge
9/28/78	3.25
10/30/78	0.50
11/29/78	1.00
12/29/78	0.75
1/30/79	1.0
2/26/79	3.5
3/28/79	0.5
4/30/79	0
5/29/79	3.5
6/28/79	2.25
7/26/79	0.87
8/27/79	1.13
9/27/79	2.25
10/26/79	-
11/28/79	2.25
12/27/79	4.50
1/28/80	2.38

SHERMAN CREEK PASS

9/28/78	Recharge
9/27/79	9.25

SPRUCE SPRINGS

10/1/78	Recharge
10/1/79	37.50

PRECIPITATION STORAGE GAGES (Continued)

SKYKOMISH 7½W

8/21/78	Recharge
9/9/78	4.90
9/30/78	10.65
6/2/79	105.22
7/1/79	4.26
8/9/79	6.17
8/9/79	Recharge
9/1/79	0.42
10/2/79	4.05
11/1/79	9.59

SURPRISE LAKES

10/1/79	Recharge
11/1/79	4.5
12/1/79	6.3
1/4/80	20.4
2/1/80	14.5

SWAUK PASS

11/27/79	Recharge
12/26/79	7.87
1/24/80	2.25

TAYLOR CREEK

8/4/78	Recharge
9/5/78	3.83
10/1/78	-18.74
11/1/78	28.12
5/1/79	42.38
6/3/79	0.64
7/2/79	4.90
7/30/79	1.92
7/30/79	Recharge
9/4/79	2.13
10/1/79	1.71
11/5/79	6.39
12/1/79	4.47
1/3/80	15.12

TROUGH # 2

10/1/78	Recharge
11/1/78	0.5
12/1/78	2.5
1/1/79	1.5
2/1/79	1.6
3/1/79	4.6
4/1/79	1.3
5/1/79	1.1
6/1/79	-0.2
7/1/79	-0.1

TROUGH # 2 (Cont.)

8/1/79	0.3
9/1/79	Recharge
11/1/79	2.3
12/1/79	3.3
1/4/80	3.9
2/1/80	4.8

TRUCK HILL

8/18/78	Recharge
11/4/78	24.75
5/6/79	36.22
6/1/79	37.13
7/1/79	1.35
8/7/79	5.62
Discontinued	

UPPER WHEELER

5/30/79	-0.8
6/30/79	-6.7
7/3-/79	7.2
9/1/79	0.7
9/30/79	-0.3
12/1/79	2.3
1/5/80	5.3
1/5/80	Recharge

YELLOW CREEK

8/18/79	Recharge
9/5/78	3.60
10/3/78	6.74
11/4/78	6.76
5/5/79	51.30
6/1/79	25.20
Charge Lost	
11/1/79	Recharge
12/4/79	7.88
1/3/80	17.10

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
  Corps of Engineers
U. S. Department of Agriculture
  Forest Service
U. S. Department of Commerce
  NOAA, National Weather Service
U. S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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COOPERATIVE SNOW SURVEYS

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Water Supply Outlook For Washington

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

DEPARTMENT OF ECOLOGY STATE OF WASHINGTON

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TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

Public Meeting Results on Snow Survey Program

WASHINGTON

As most of the recipients of this report are aware, a series of Public Paticipation Meetings on the future of the Snow Survey Program in Washington has recently been concluded. These meetings, as well as solicitations for written comments from the public, were directed at answering the question "What alternative institutional arrangements could be made for making Snow Survey and Water Supply Forecasts?" Similar meetings were held simultaneously in other western states to gain the public's view as to the most beneficial and economical manner to conduct the Snow Survey Program.

From the input received at the two Public Meetings held, as well as over a hundred responses by mail, a very strong show of support for the program has been voiced. A majority of those responding were in favor of "Continue present program, and expand scope, including SNOTEL under the leadership of the Soil Conservation Service". A more detailed summary will be mailed to those who responded or attended the meetings. The selected best program alternatives, taking into account the public reaction, will be published in the Federal Register during May, 1980. At that time, additional comments will be invited from the public.

WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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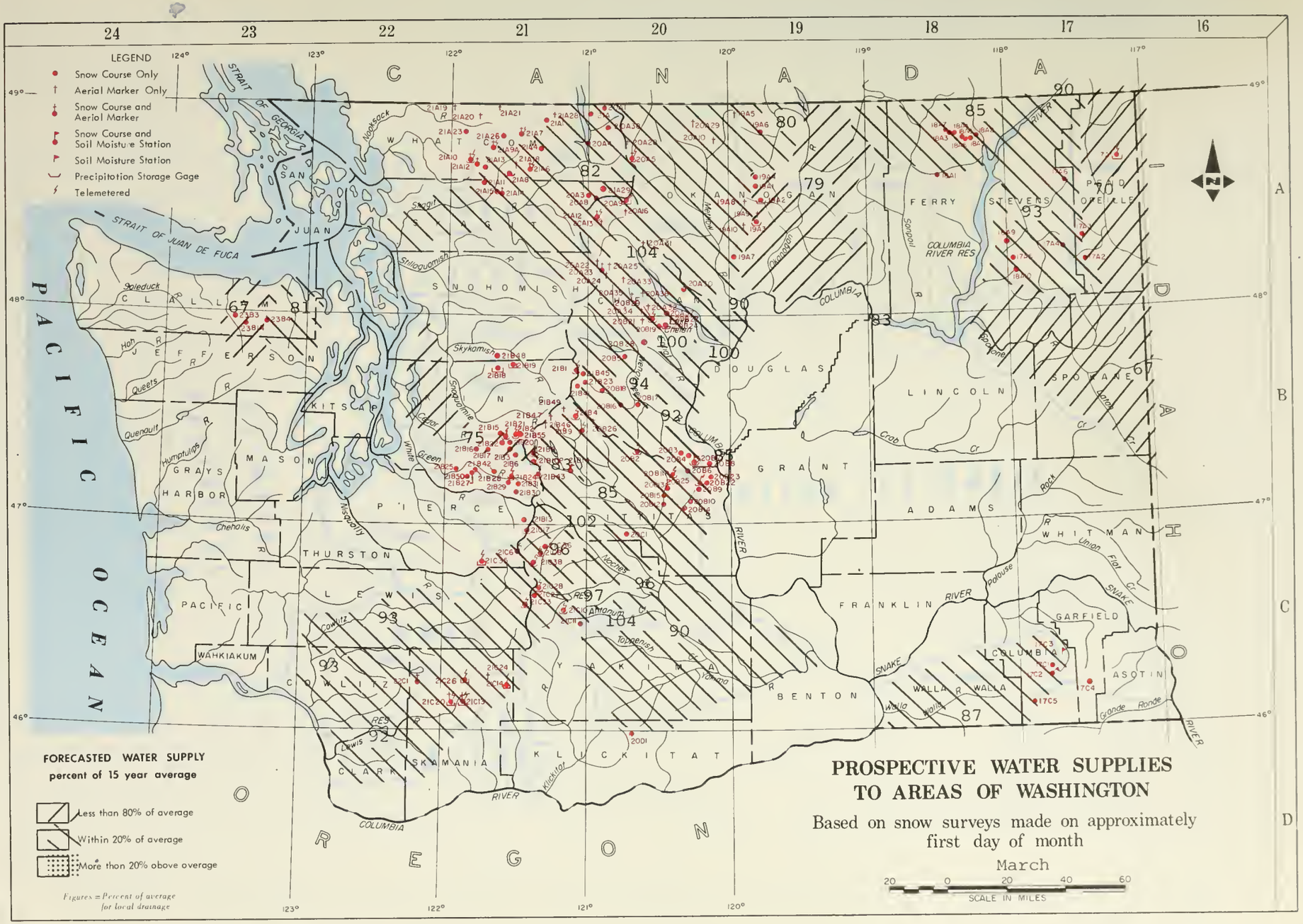

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970
Kettle River					
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600
Colville River					
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Taga	18A10	6	29N	38E	3370
Sanpoil River					
Sherman Creek Pass	18A1	19	36N	35E	5350
Okanagan River					
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salman Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845
Methaw River					
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650
Chelan Lake Basin					
Cloudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500
Entiat River					
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tammy Creek	20B21a	10	28N	18E	4900
Wenatchee River					
Berne Mill Creek	21B23	7	26N	15E	3170
Berne Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Calackum Creek					
Calackum Creek Upper	20B22	11	20N	20E	5300
Calackum Creek Lower	20B23	1	20N	20E	4300
Squilchuck Creek					
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400
Yakima River					
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Jae Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Asotin Creek					
Spruce Springs	17C4	9	8N	40E	5700
Touchet River					
Couse	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530
Klickitat River					
Satus Pass	20D1	21	6N	17E	4030

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lewis River					
Lane Pine Shelter	21C26SP	B	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250
Cowlitz River					
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Nisqually River					
Paradise Park (New)	21C35SP	13	15N	8E	5500
White River					
Carrol Pass	21B13SP	30	18N	11E	6000
Green River					
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100
Cedar River					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P.	1	21N	10E	3400
Snoqualmie River					
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700
Skykomish River					
Lake Elizabeth	21B19P	33	26N	10E	2900

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Skagit River					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brown Top	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	9	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hozameen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200
Baker River					
Dock Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Maunt Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500
Naaksack River					
Bald Mountain	21A19a	7	40N	7E	4400
Canyan	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dungeness River					
Deer Park	23B4	1	28N	5W	5200
Morse Creek					
Cox Valley	23B14	31	29N	6W	4500
Elwha River					
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A7p	Precipitation Storage Gage
21A7SP	Snow Pillow

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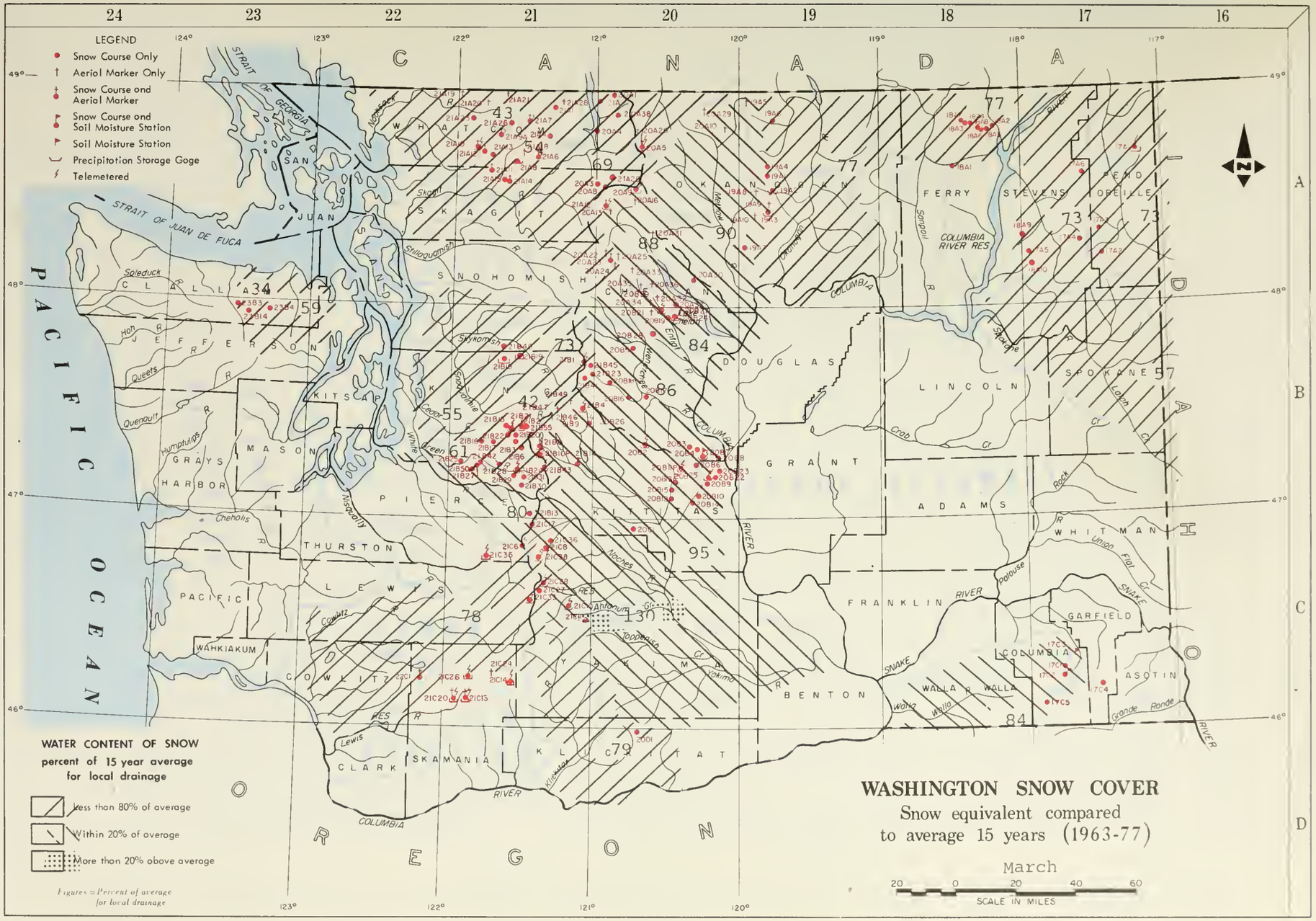

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UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bayer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Calville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlsan	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Taga	18A10	6	29N	38E	3370

Sanpail River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okanagan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Muttan Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salman Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845

Methaw River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Harseshae Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650

Chelan Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Claudy Pass	20A22a	12	31N	15E	6500
Greenwaad Flat	20A25a	3	31N	16E	3540
Little Meadaws	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersans	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbar	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadaws	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Faur Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pape Ridge	20B20	22	29N	18E	3540
Pape Ridge Snaw Pillaw	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snaw Brushy	20A35a	21	30N	17E	3910
Tammy Creek	20B21a	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenwarth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Traugh #2	20B25SP	10	20N	20E	5310

Colockum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scaut-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Calackum Pass	20B9	25	20N	20E	5370
Caake Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Jae Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Marse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20826a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asatin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Tauchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cause	17C3m	2	9N	40E	3370
Hamestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Tauchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Pass	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lone Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadaw	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cowlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potata Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Corral Pass	21813SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21824P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21827	14	20N	8E	2900
Grass Mountain No. 3	21828	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21850	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snawshae Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21810SP	25	21N	11E	3860
Twin Camp	21830	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
Sauth Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snaqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadaws	21B2P	19	22N	11E	3625
South Fark Tolt	21B18P	26	26N	9E	1900
Olallie Meadaws East	21B55SP	20	22N	11E	8700

Skykomish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brawn Tap	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeaut Creek Trail	20A1	14	40N	14E	3500
Freezeaut Meadaws (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadaws Cabins	20A8	29	36N	14E	1900
New Hazameen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Duck Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Maunt Blum	21A18a	27	38N	10E	5800
Racky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadaw	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watsan Lake	21A8P	25	37N	9E	4500

Naoksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyan	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panarama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Marse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7 Snow Course Only
21A7a Aerial Marker Only
21A7A Snow Course And Aerial Marker
21A7M Snow Course And Soil Moisture Station
21A7m Soil Moisture Station
21A7P Snow Course And Precipitation Storage Gage
21A7p Precipitation Storage Gage
21A7SP Snow Pillow

WATER SUPPLY OUTLOOK

State of Washington

March 1, 1980

We have had a general improvement in the water supply picture from that which we reported last month. The mainstem of the Columbia River is practically the same as was expected last month. In Washington, the high use water areas of the Yakima, Wenatchee, and Chelan have improved from that previously reported; but some of the other watersheds have had a decrease in the forecast of water supply. Our snow pack now ranges from 57 percent of normal to 130 percent in the Upper Columbia area of the state, about 80 percent of normal in the Lower Columbia, and from 42 to 80 percent in the Puget Sound area. Preliminary indications are that the snow pack in the Olympic Peninsula has been seriously depleted even from the low amounts of last month. Precipitation was excellent in all drainage divisions, as reported by the National Weather Service, with the exception of the Pend Oreille-Spokane and Southwest Slopes; and even these are not as bad as reported last month. We have been fortunate this month in getting the precipitation really where it was needed. The only problem was that a lot of this precipitation occurred in the lower elevations and not in the high country in the form of snow. The water supply forecasts prepared by the Soil Conservation Service and the National Weather Service are for expected April-September flows that range from 67 percent of normal for the Elwha River, as measured near Port Angeles to a high of 4 percent above normal for the Ahtanum Creek, as measured near Tampico. As stated above, the high water use areas can expect near normal water supplies this forthcoming summer provided near normal rainfall and temperatures occur from this time henceforth.

SNOW COVER

In the Upper Columbia Basin in Washington and tributary areas, the snow pack has both increased, percentagewise, and decreased. The Spokane Drainage has decreased 7 percent, for example, and the Okanogan has increased 11 percent. The overall change is for a slight increase from that previously reported. Along the Lower Columbia, only three drainage areas are considered and these indicate the snow pack is just about the same as was reported last month. Mill Creek has decreased 5 percent; Klickitat has increased 5 percent; and the Cowlitz has decreased 5 percent. In the Puget Sound Drainage area, we have had a general decrease in the snow pack, due primarily to the warm temperatures and above normal precipitation that occurred in the area. The Skagit Drainage actually increased 5 percent while the Baker decreased 6 percent. In the Olympic Peninsula, our snow reports have not been received as of this date, but in talking with water users in the area, they indicate that the above normal temperature and above normal precipitation that occurred in the Puget Sound area extended throughout their area with a subsequent depletion of the snow cover.

RESERVOIRS

Generally speaking, the reservoirs in Washington have less than normal amounts of water in storage as of March 1. The only exceptions being Banks Lake, which is pump filled, and Lake Cle Elum, which is still closed while work continues on the gates. It is expected that these reservoirs will all fill comfortably with the spring runoff.

PRECIPITATION

As reported by the National Weather Service, rainfall in those areas that influece the State of Washington was generally above normal. In the Drainage Division, Columbia Above Castlegar, February precipitation was 5 percent above normal. The November through February winter total is still 12 percent below normal. The Pend Oreille-Spokane Drainage still reported subnormal precipitation during the month - 17 percent below, and the winter precipitaton now stands at 27 percent below average. In sharp contrast, the Northeastern Drainage Division had rainfall over 100 percent greater than average and the winter precipitation now stands at 5 percent above average - an increase of 20 percent from that reported last month. Southeastern Washington had rainfall 47 percent greater than average and now has a winter total 8 percent above average. The greatest amount of precipitation occurred in the Central Washington Drainage Division, 212 percent of average. The winter precipitation also is the greatest of any reported division at 38 percent greater than average. North Central Washington, or the Okanogan area, had rainfall 90 percent greater than average during February but still has a winter deficit of 6 percent. On the West side, the Northwest Slopes experienced 5 percent greater than normal precipitation and the Southwest Slopes 6 percent below normal. The winter total in these areas are 10 percent below and 17 percent below, respectively. It now appears that the State of Washington is getting back into a more normal precipitation regime which is very welcome to the water users.

STREAMFLOW

In spite of the generally above normal precipitation reported above, February streamflows were generally below normal even over in the high rainfall areas in the Puget Sound Drainage. The Columbia River mainstem, as measured at The Dalles, Oregon, is now expected to have an April-September outflow of 83,900,000 acre feet, or 81 percent of normal. This is a decrease of one percentage point. The Pend Oreille River, as measured below Box Canyon, is expected to flow 5 percent less than that previously reported; the Kettle River the same; and the Colville, 15 percent less than reported last month. The Spokane Drainage is now expected to flow 2,000,000 acre feet, a 13 percent decrease from last month. The Okanogan-Similkameen forecasts have been decreased 9 to 12 percent, but the Methow has increased 1 percent. A 5 to 6 percent increase is forecast in the Chelan Drainage and a 4 percent increase in the Wenatchee. The Yakima River system is expected to flow very near what was forecast last month. The Parker forecast is for a decrease of 1 percent from that previously reported. Our forecasts of the Lower Columbia River are essentially the same as reported last month. There has been a decrease in the Olympic Peninsula forecasts of 3 percent and a generally 5 percent decrease in the Puget Sound area. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - FEBRUARY, 1980

The following summarized runoff forecasts are based principally on mountain snow-cover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1979 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
COLUMBIA BASIN							
COLUMBIA RIVER SYSTEM							
Columbia River	40900	90	Apr-Sept	34484	44008	31562	45502
at Birchbank 1/	31900	88	Apr-July	27181	34030	23812	36353
	22100	84	Apr-June	19661	24082	18026	26194
Columbia River	56700	83	Apr-Sept	52769	66868	41056	68012
at Grand Coulee 1/	47200	83	Apr-July	44096	54559	32018	57035
	35860	81	Apr-June	35138	41585	25623	44273
Columbia River	62800	85	Apr-Sept	55298	72892	43415	73935
bl. Rock Island Dam 1/	52500	84	Apr-July	46700	60163	34253	62462
	40250	83	Apr-June	37453	46242	27563	48489
Columbia River	83900	81	Apr-Sept	76843	101055	54092	103493
at The Dalles, OR 1/	71700	81	Apr-July	65758	84815	42940	88519
	57000	80	Apr-June	55016	67353	35524	71237
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	10900	70	Apr-Sept	11639	15581	4130	15950
bl. Box Canyon	10300	70	Apr-July	11095	14080	2715	14690
	8100	69	Apr-June	10217	11750	2261	11760
KETTLE RIVER SYSTEM							
Kettle River	1575	85	Apr-Sept	1259	2056	1145	1846
nr. Laurier	1490	85	Apr-July	1216	1877	1105	1754
	1340	85	Apr-June	1132	1686	1037	1588
Colville River	125	93	Apr-Sept	63	138	26	134
at Kettle Falls	115	93	Apr-July	58	125	22	123
	110	96	Apr-June	55	117	20	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
SPOKANE RIVER SYSTEM **							
Spokane River	2000	67	Apr-Sept	2809	2427	-	2910
at Post Falls, ID 2/	1910	70	Apr-July	2757	2330	-	2733
	1750	67	Apr-June	2678	2119	-	2600
OKANOGAN RIVER SYSTEM							
Similkameen River	1220	80	Apr-Sept	872	1505	645	1517
nr. Nighthawk	1130	80	Apr-July	812	1365	605	1417
	990	83	Apr-June	728	1170	547	1192
Okanogan River	1360	79	Apr-Sept	909	1690	708	1719
nr. Tonasket	1205	77	Apr-July	825	1500	644	1565
	1045	80	Apr-June	730	1286	583	1305
METHOW RIVER SYSTEM							
Methow River	912	90	Apr-Sept		1174	280	1011
nr. Pateros	850	91	Apr-July		1058	246	937
	730	92	Apr-June		876	217	791
CHELAN RIVER SYSTEM							
Chelan River	1230	100	Apr-Sept	753	1335	599	1237
at Chelan 3/	1100	102	Apr-July	662	1164	481	1080
	870	104	Apr-June	553	906	403	834
Stehekin River	915	104	Apr-Sept		888	494	883
at Stehekin	780	105	Apr-July		750	382	744
	590	106	Apr-June		563	311	557
Entiat	240	100	Apr-Sept		295	95	241
nr. Ardenvoir	215	99	Apr-July		268	81	218
	170	98	Apr-June		275	70	174
WENATCHEE RIVER SYSTEM							
Wenatchee River	1220	94	Apr-Sept	893	1311	633	1297
at Plain	1075	93	Apr-July	812	1171	542	1156
	830	92	Apr-June	704	945	479	903
Wenatchee River	1625	92	Apr-Sept	1165	1755	839	1767
at Peshastin	1490	94	Apr-July	1074	1576	730	1587
	1180	94	Apr-June	938	1275	653	1250
Stemilt Basin nr. Wenatchee	135	98	May-Sept	-	-	-	138*
Icicle Creek	310	84	Apr-Sept	-	-	-	371
nr. Leavenworth	290	84	Apr-July	-	-	-	342
	235	84	Apr-June	-	-	-	279

* Thousands of Miners' Inches.

** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
YAKIMA RIVER SYSTEM							
Yakima River	120	83	Apr-Sept	124	114	78	145
nr. Martin 4/	115	86	Apr-July	114	101	67	133
	100	88	Apr-June	101	93	67	114
Yakima River	830	85	Apr-Sept	714	808	493	975
at Cle Elum 5/	770	87	Apr-July	683	696	416	883
	680	90	Apr-June	599	614	379	751
Yakima River	1950	90	Apr-Sept	1388	1977	802	2168
nr. Parker 6/	1800	92	Apr-July	1287	1691	657	1954
	1590	94	Apr-June	1179	1487	611	1693
Kachess River	106	84	Apr-Sept	101	98	61	126
nr. Easton 7/	110	92	Apr-July	95	91	55	119
	100	96	Apr-June	88	84	53	104
Cle Elum River	410	86	Apr-Sept	348	417	250	479
nr. Roslyn 8/	390	90	Apr-July	326	372	215	435
	330	92	Apr-June	292	318	193	358
Bumping River	140	96	Apr-Sept	99	119	63	146
nr. Nile 9/	135	102	Apr-July	92	108	55	133
	105	99	Apr-June	82	93	51	106
American River	130	102	Apr-Sept		111	50	127
nr. Nile	120	104	Apr-July		93	44	116
	100	106	Apr-June		84	39	95
Tieton River	245	97	Apr-Sept	179	228	128	252
at Tieton Dam 10/	210	99	Apr-July	148	188	93	212
	170	102	Apr-June	120	148	76	168
Naches River	860	96	Apr-Sept	574	721	330	894
nr. Naches 11/	800	99	Apr-July	528	657	270	807
	680	100	Apr-June	478	564	250	680
Ahtanum Creek	48	104	Apr-Sept		48	8	47
nr. Tampico 12/	45	107	Apr-July		43	7	42
	40	108	Apr-June		37	6	37

4/ Observed flow corrected for storage in Lake Keechelus.
5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.
6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.
7/ Observed flow corrected for storage in Lake Kachess.
8/ Observed flow corrected for storage in Lake Cle Elum.
9/ Observed flow corrected for storage in Bumping Lake.
10/ Observed flow corrected for storage in Rimrock Lake.
11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.
12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek	15.27	87	Apr-Sept		12.11	4.47	17.50
at Walla Walla	15.02	87	Apr-July		11.99	4.29	17.33
	14.88	87	Apr-June		11.91	4.25	17.15
Lewis River	1200	92	Apr-Sept	974	904	1030	1301
at Ariel 13/	1040	92	Apr-July	839	610	832	1131
	930	93	Apr-June	755	515	763	995
Cowlitz River	1980	93	Apr-Sept		1635	1570	2125
bl. Mayfield Dam	1725	93	Apr-July		1348	1293	1853
	1420	91	Apr-June		1150	1168	1552
Cowlitz River	2570	93	Apr-Sept	1985	2232	2157	2767
at Castle Rock 14/	2170	90	Apr-July	1746	1835	1766	2401
	1890	93	Apr-June	1537	1581	1601	2028
OLYMPIC PENINSULA							
DUNGENESS RIVER SYSTEM							
Dungeness River	130	81	Apr-Sept		152	97	160
nr. Sequim	105	81	Apr-July		115	75	130
	80	83	Apr-June		83	61	96
PUGET SOUND							
SKAGIT RIVER SYSTEM							
Skagit River	2999	84	Mar-Aug		2110	938	2376
at Newhalem 15/	1930	82	Apr-Sept	1648	2115	728	2356
	1640	83	Apr-July	1359	1690	535	1972
	1230	83	Apr-June	1102	1285	429	1485
GREEN RIVER SYSTEM							
Green River							
bl. Howard Hanson Dam 16/	330	85	Mar-Sept		252	273	387
CEDAR RIVER SYSTEM							
Cedar River	70	75	Apr-Sept			55	93
nr. Cedar Falls							
ELWHA RIVER SYSTEM							
Elwha River	370	67	Apr-Sept			370	553
nr. Port Angeles	310	68	Apr-July			295	454

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about March 1, as percent of the same date in 1979 and 1978 and average of record.

Tributary Basin	No. of Courses Average	1980 Snow Water Expressed as percent of 1979	1978	1963-77 Avg.
UPPER COLUMBIA BASIN				
Pend Oreille	17	79	71	73
Kettle	16	95	66	77
Colville	5	72	67	73
Spokane	13	58	62	57
Okanogan	39	114	68	77
Methow	7	180	79	90
Chelan	3	113	73	88
Entiat	11	120	67	84
Wenatchee	10	83	88	86
Yakima	28	105	96	95
Ahtanum	2	160	105	130
LOWER COLUMBIA BASIN				
Mill Creek	3	66	138	84
Klickitat	1	82	85	79
Cowlitz	2	89	103	78
PUGET SOUND				
White	3	102	86	80
Green	8	68	188	61
Cedar	6	60	502	55
Snoqualmie	2	47	85	42
Skykomish	2	74	76	73
Skagit	13	88	82	69
Baker				
Nooksack	2	62	60	43
OLYMPIC PENINSULA				
Morse	1	78	77	58
Elwha	1	38	62	34
Dungeness	1	65	82	59

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured March 1 1980	1979	1978	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	79.5	70.5	134.1	121.6
Columbia	Franklin D. Roosevelt Lake	5232.0	2209.6	2912.8	2027.3	2681.2
Columbia	Banks Lake	714.9	701.5	690.8	720.3	621.3
Okanogan	Conconully Reservoir	13.0	3.5	10.0	3.1	6.7
Okanogan	Salmon Lake	10.5	8.3	10.5	6.0	7.5
Chelan	Lake Chelan	676.1	168.4	198.1	194.6	235.5
		YAKIMA				
Yakima	Keechelus Lake	157.8	78.3	78.2	148.5	105.4
Kachess	Kachess Lake	239.0	76.9	187.9	195.6	183.0
Cle Elum	Lake Cle Elum	436.9	363.3	80.0	264.2	280.2
Bumping	Bumping Lake	33.7	15.8	8.3	18.2	8.7
Tieton	Rimrock Lake	198.0	68.4	146.4	149.8	125.3
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	627.2	636.1	801.1	894.0
Skagit	Diablo Reservoir	90.6	85.0	85.0	82.9	85.2
Skagit	Gorge Reservoir	9.8	7.5	8.0	8.2	8.1

1/ Based on Active Storage

* 15-yr. Average 1963-1977

SOIL MOISTURE - MARCH, 1980

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of March 1 1980	1979	1978
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	Late	3.4	3.7
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	11.0	7.3	8.8
Helmers	17C2M	4400	48	12.0	9.4	9.1	8.4
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	9.7	8.1	10.8

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1979	1978	1977
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	3.1	3.7	3.2
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.7	5.9	-
Helmers	17C2M	4400	48	12.0	8.1	8.2	-
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.1	10.3	6.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct Observed	FALL 1979 2/ Departure	WINTER Nov 1979 - Jan 1980 Observed	WINTER Departure 2/
Columbia in Canada	4.44	-0.58	11.96	-1.60
Pend Oreille - Spokane	3.23	-0.81	11.01	-4.01
Northeastern Washington	2.53	+0.05	8.49	+0.38
Southeastern Washington	2.53	+0.02	9.44	+0.67
Central Washington	1.55	+0.58	6.33	+1.75
North Central Washington	2.22	+0.63	5.43	-0.35
Northwest Slope Cascades	10.68	-2.53	42.24	-4.86
Southwest Slope Cascades	9.66	+0.98	29.51	-5.97

Northeastern Washington - Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon, and Palouse Drainages.

Central Washington - Yakima, Wenatchee, and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

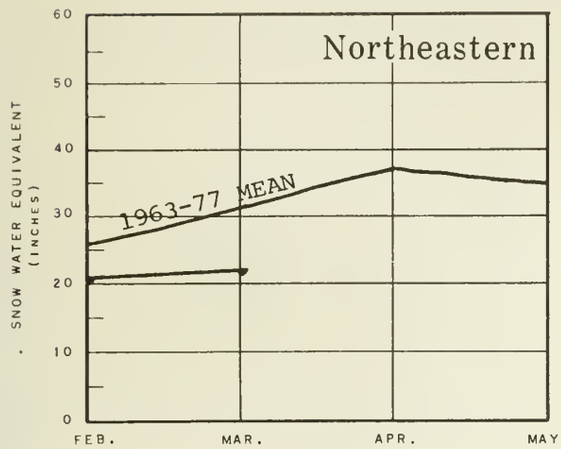
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

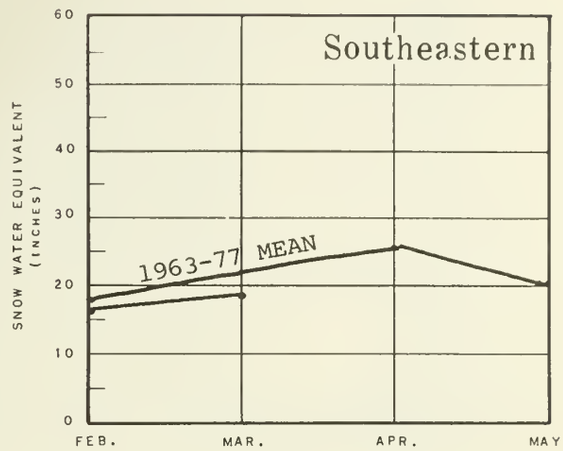
2/ - Departure from 15-year (1958-72) drainage division average.

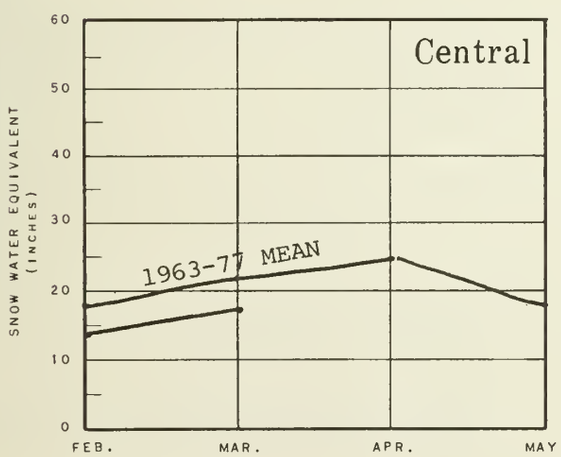
WASHINGTON SNOW COVER

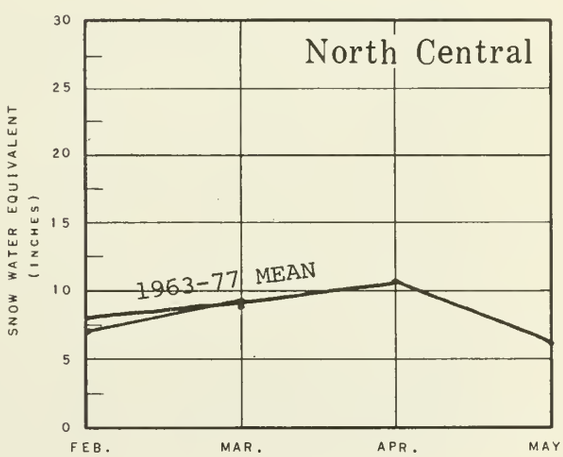
1980

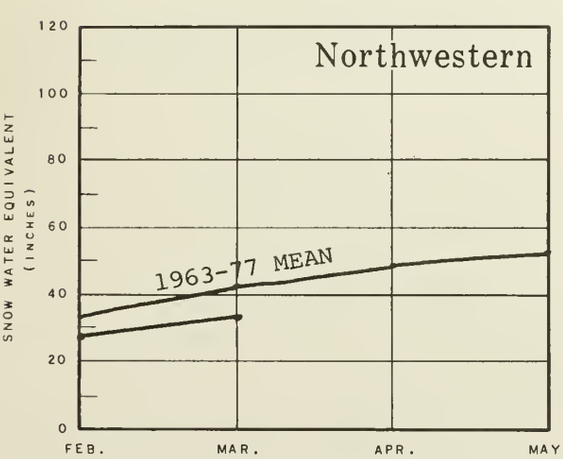
DRAINAGE AREAS

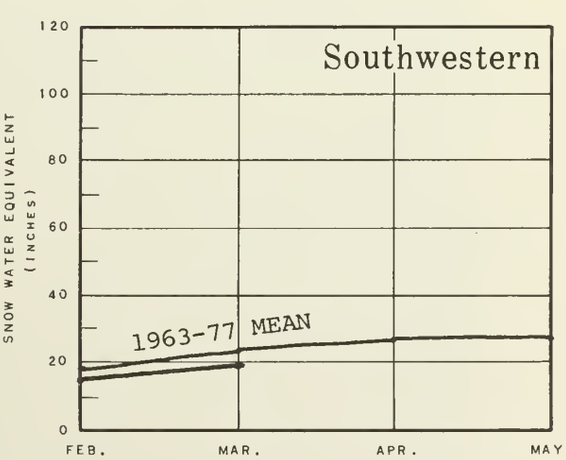












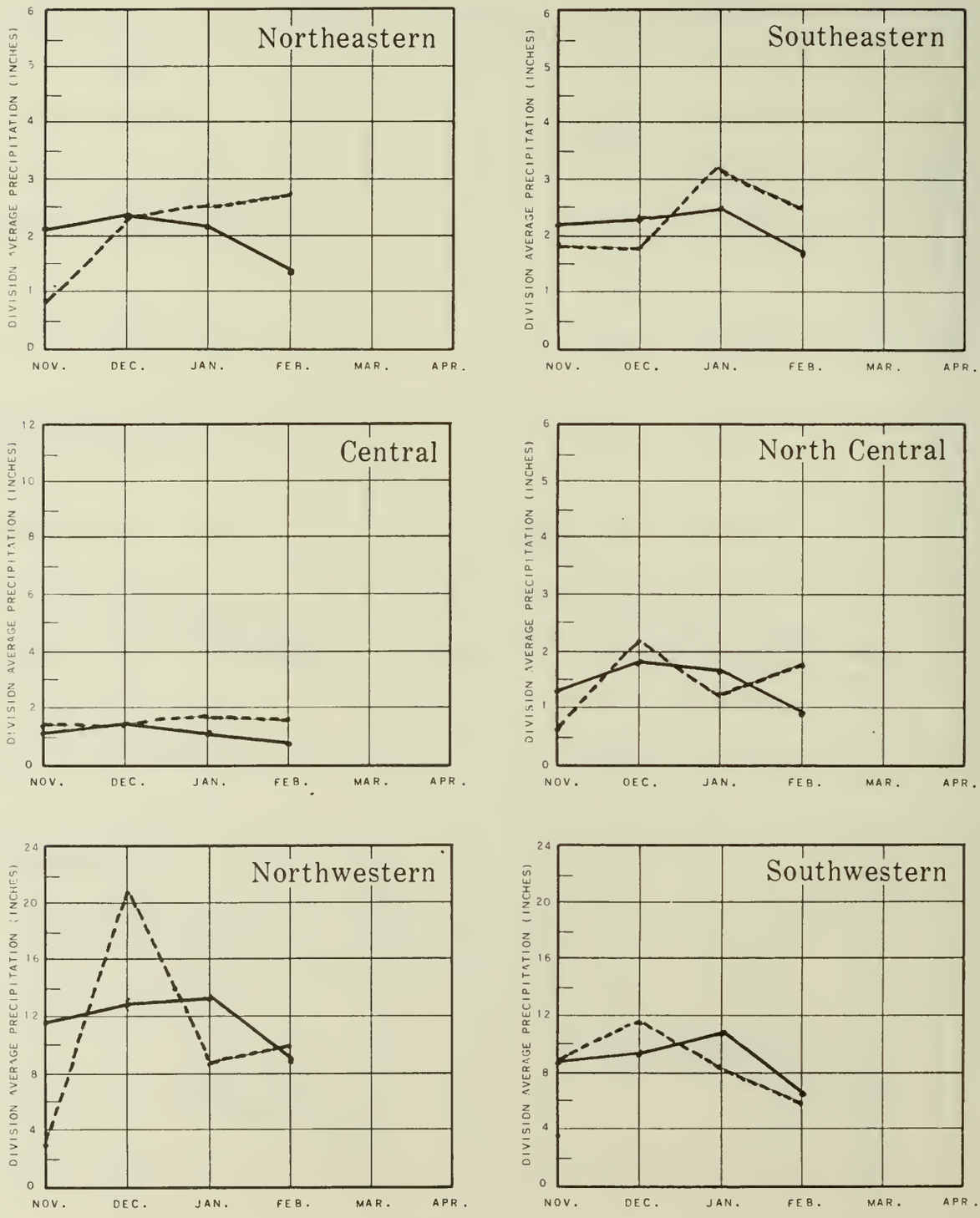
Selected Snow Survey Courses by Soil Conservation Service

M7-L-22028G

WASHINGTON VALLEY PRECIPITATION

1980

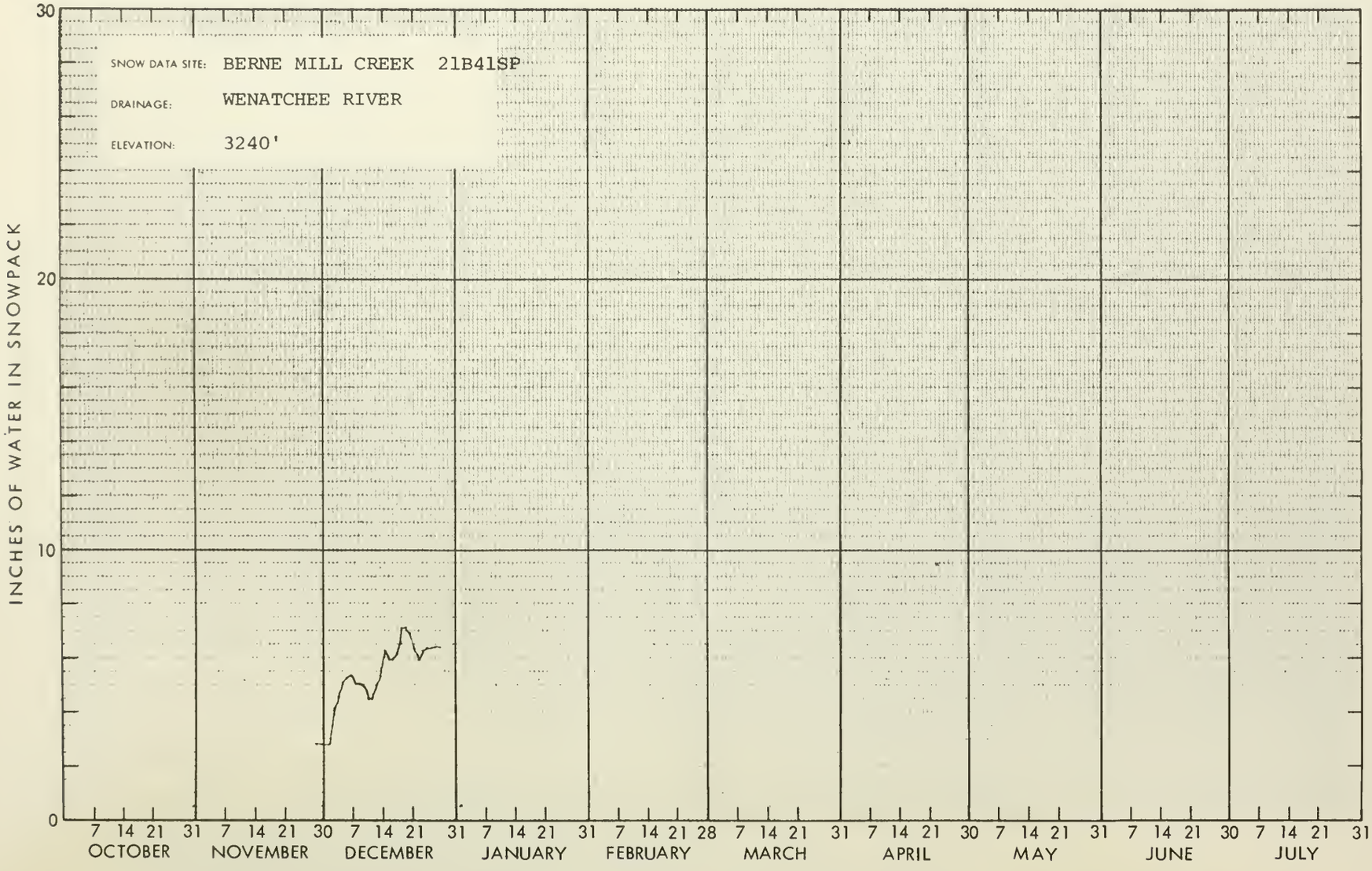
DRAINAGE AREAS



Preliminary Analysis by National Weather Service

M7-L-22028H

WSFB-X138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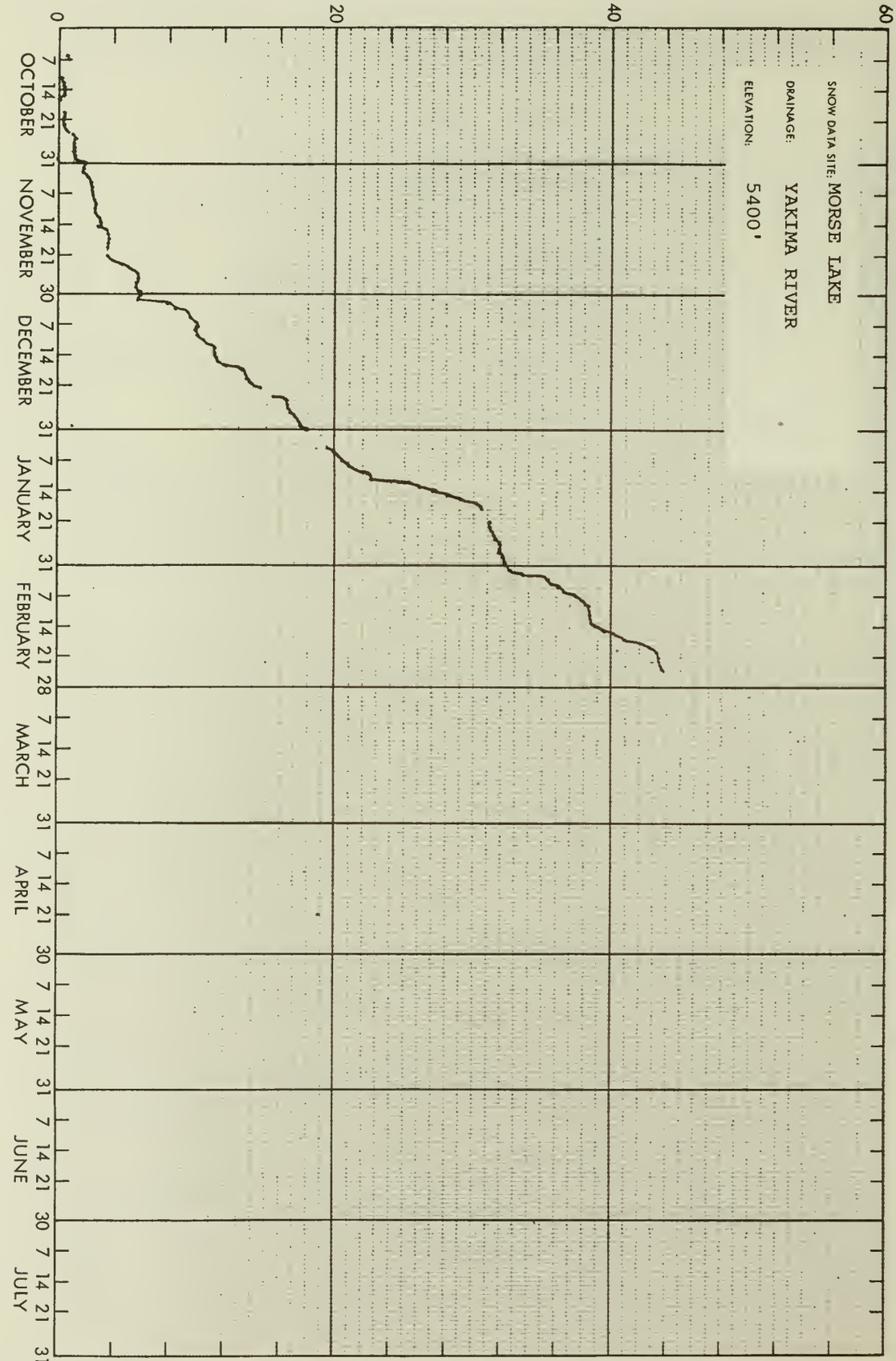
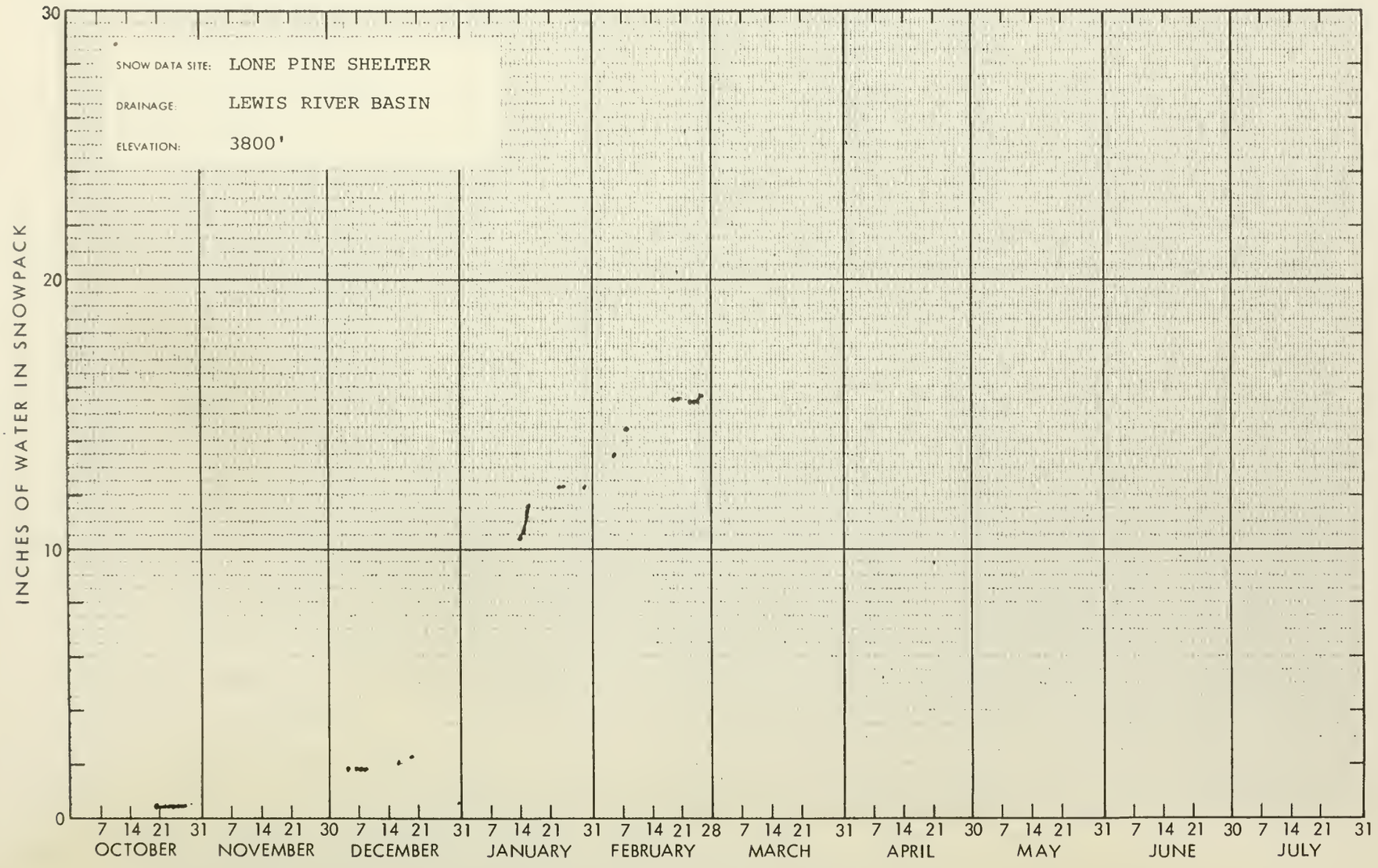
DRAINAGE: WENATCHEE RIVER
ELEVATION: 3240'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY


INCHES OF WATER IN SNOWPACK
0
20
40
60
SNOW DATA SITE: MORSE LAKE
DRAINAGE: YAKIMA RIVER
ELEVATION: 5400'
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X138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DRAINAGE: LEWIS RIVER BASIN
ELEVATION: 3800'
INCHES OF WATER IN SNOWPACK
30
20
10
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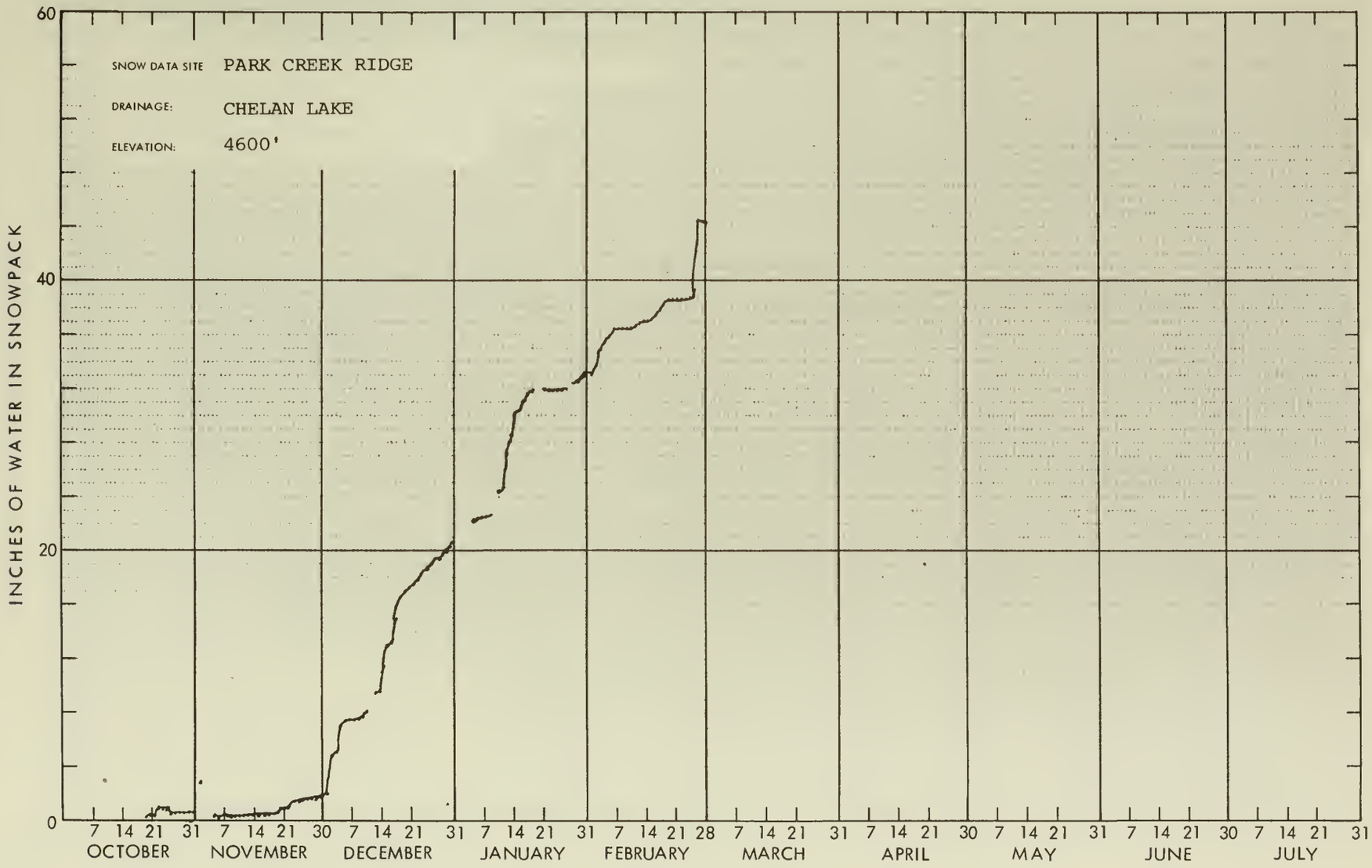
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X13C


SNOW DATA SITE PARK CREEK RIDGE
DRAINAGE: CHELAN LAKE
ELEVATION: 4600'
INCHES OF WATER IN SNOWPACK
60
40
20
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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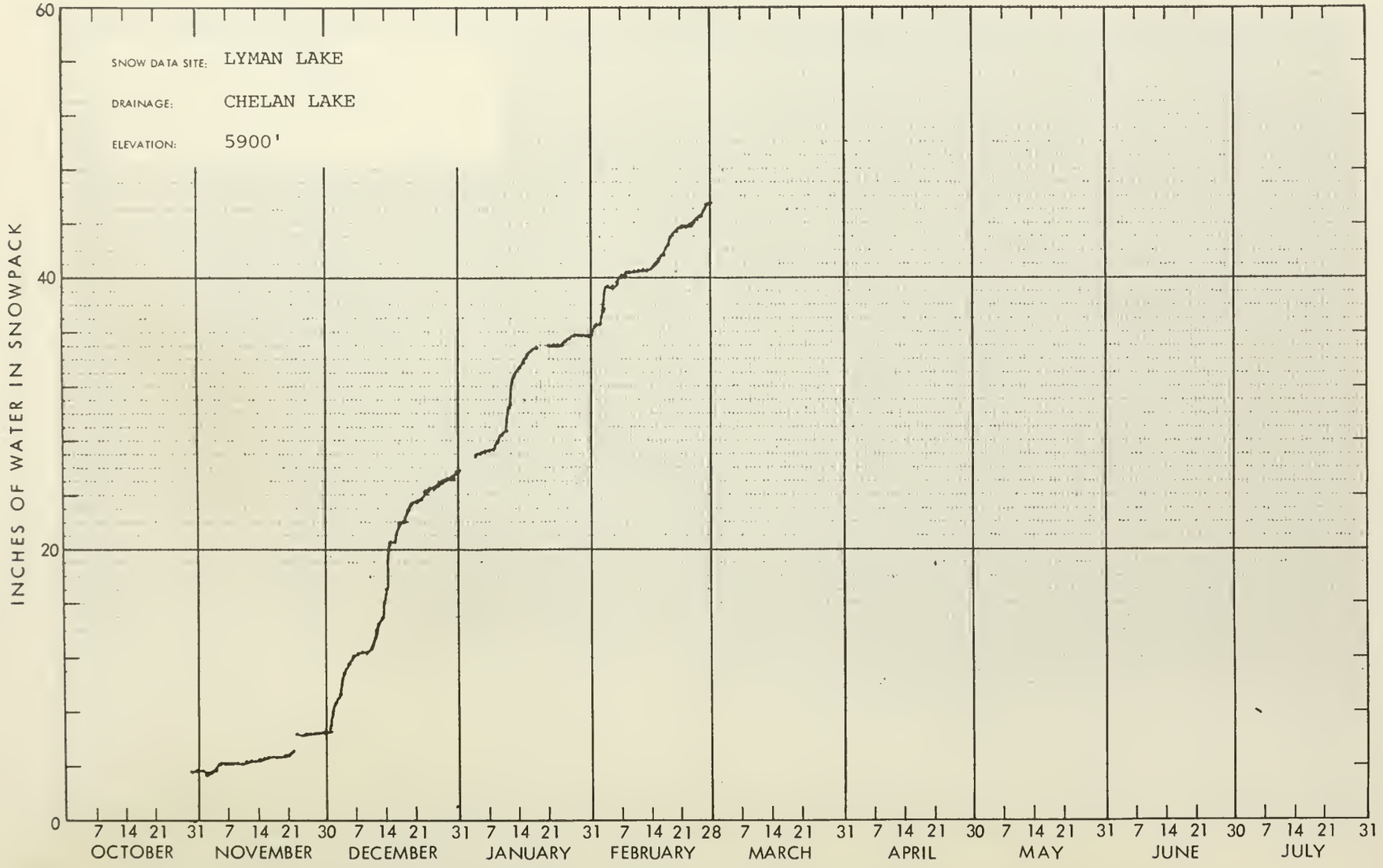
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DRAINAGE: CHELAN LAKE
ELEVATION: 5900'
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40
20
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OCTOBER
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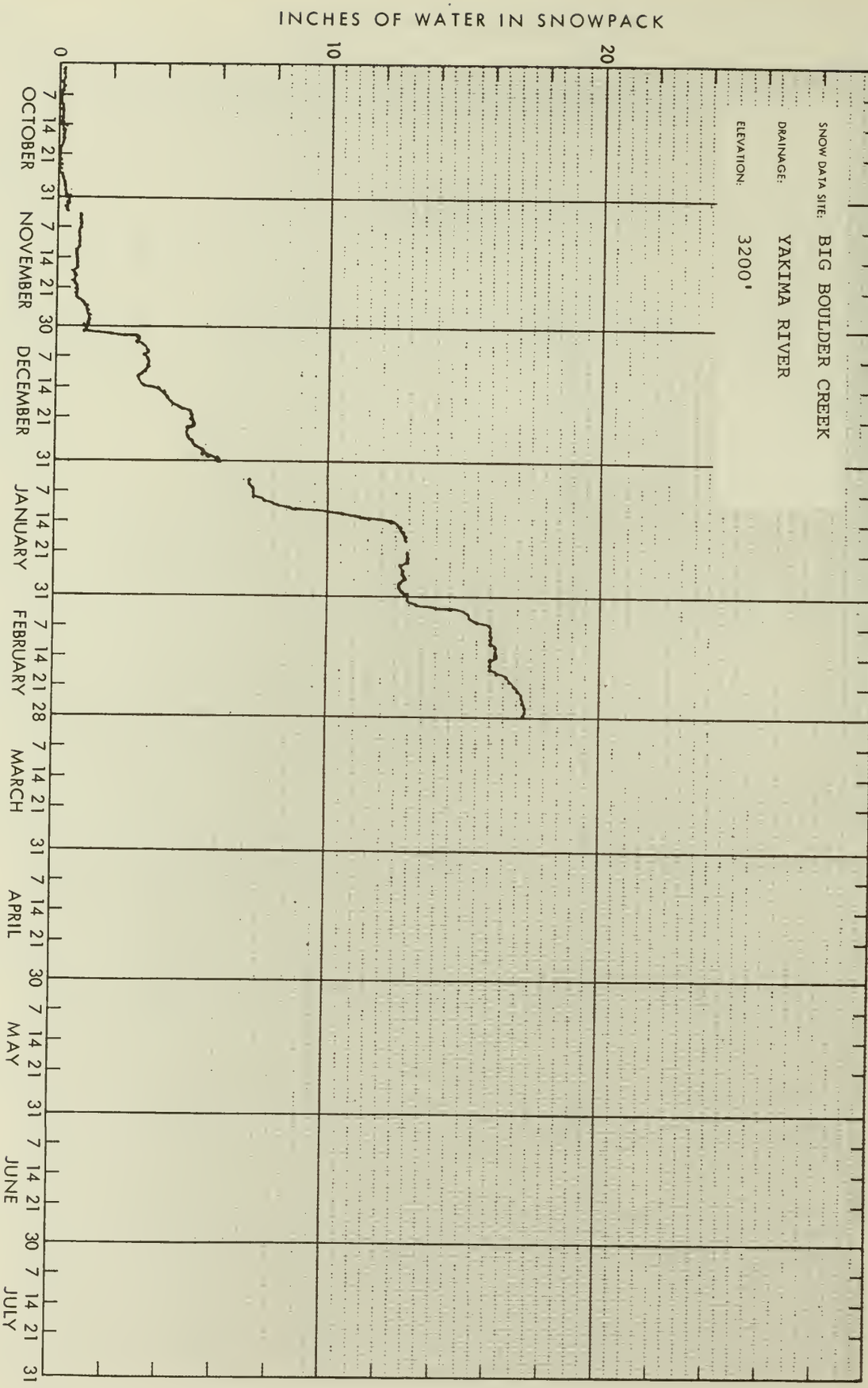
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10
20
30
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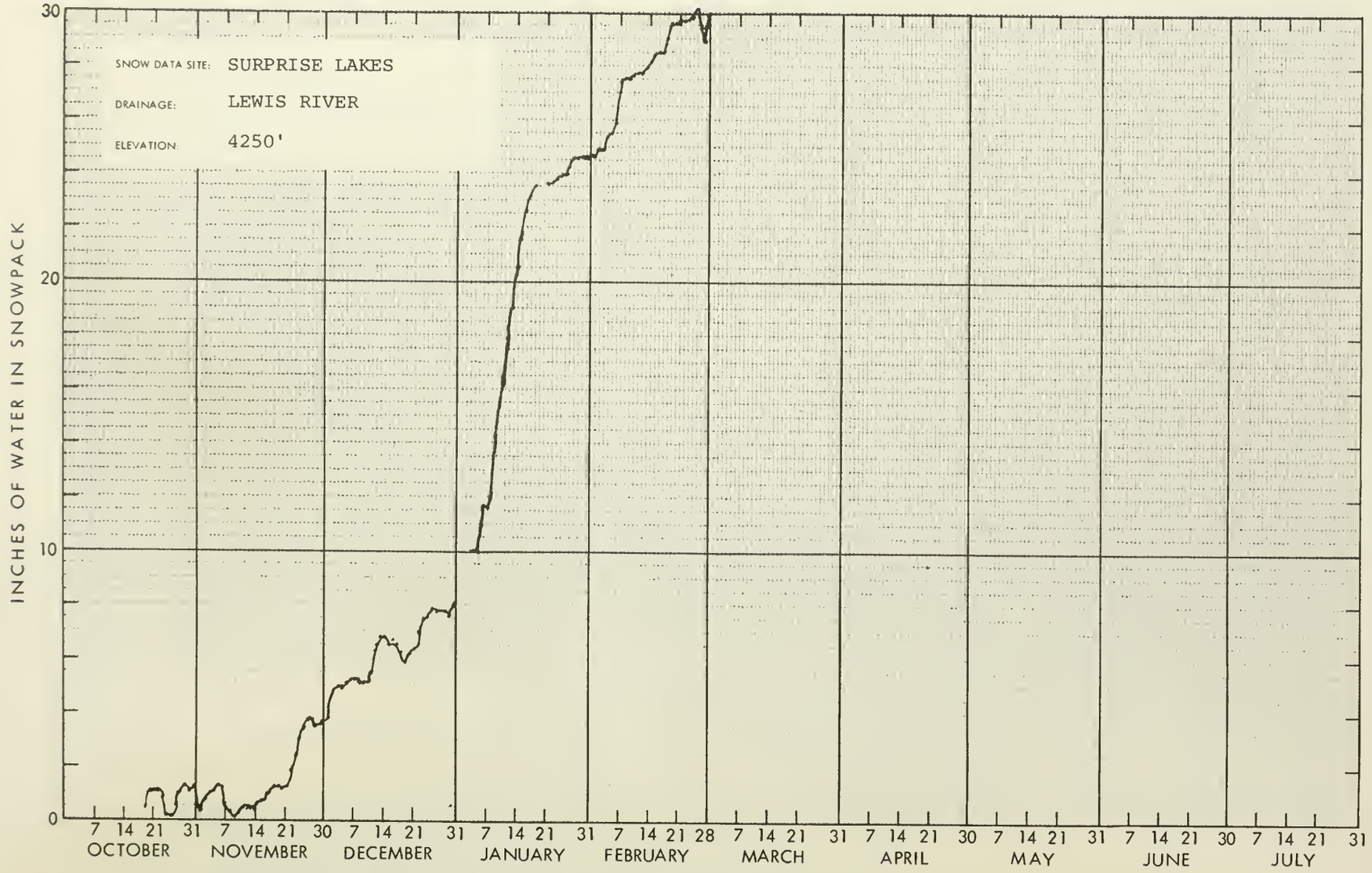
DRAINAGE: YAKIMA RIVER
ELEVATION: 3200'
7 14 21 31 OCTOBER
7 14 21 30 NOVEMBER
7 14 21 31 DECEMBER
7 14 21 31 JANUARY
7 14 21 28 FEBRUARY
7 14 21 31 MARCH
7 14 21 30 APRIL
7 14 21 31 MAY
7 14 21 30 JUNE
7 14 21 31 JULY

WSFB-X138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DRAINAGE: LEWIS RIVER
ELEVATION: 4250'
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20
10
0
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OCTOBER
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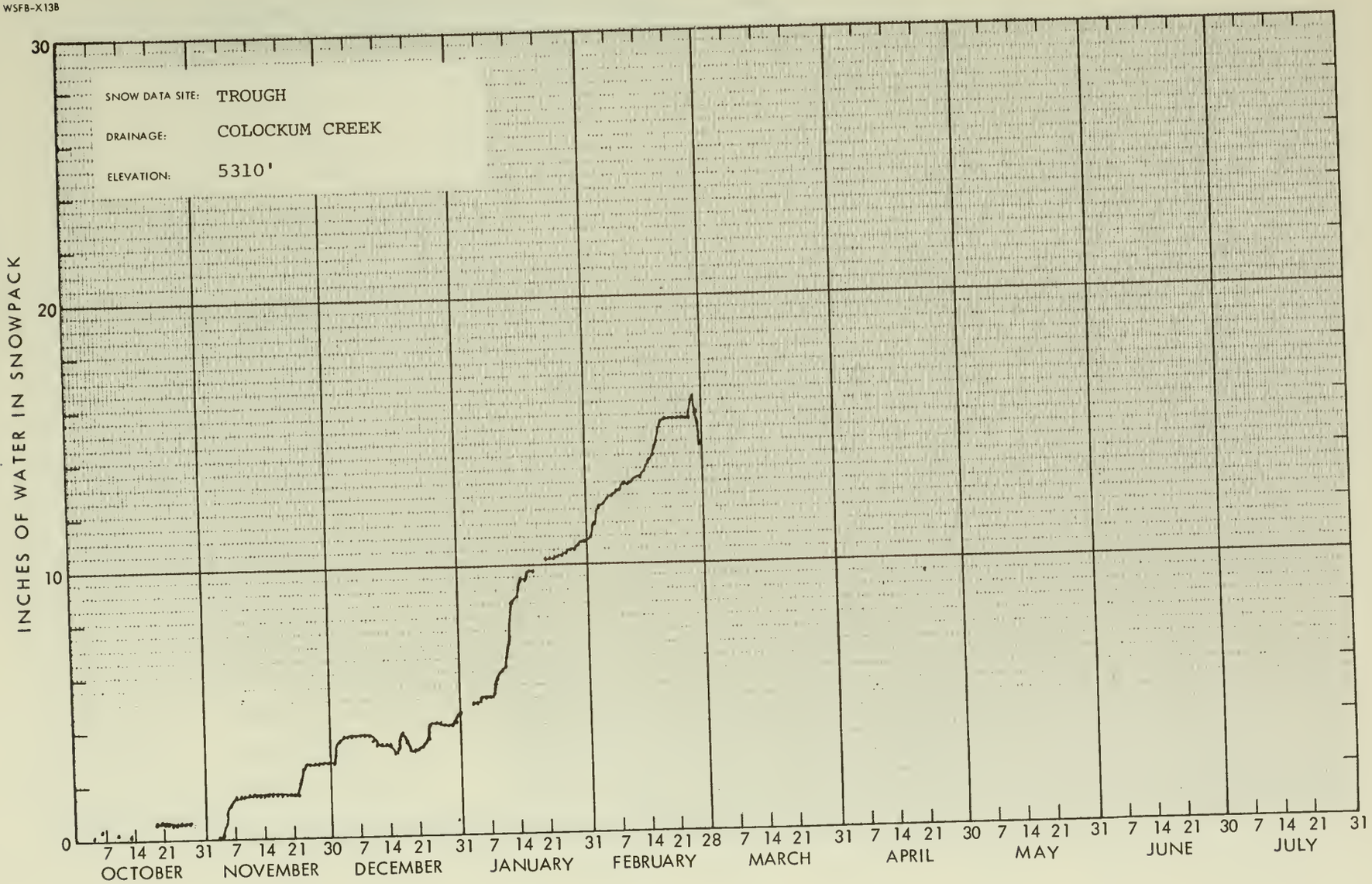
WSFB-X13B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DRAINAGE: COLOCKUM CREEK
ELEVATION: 5310'
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10
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OCTOBER
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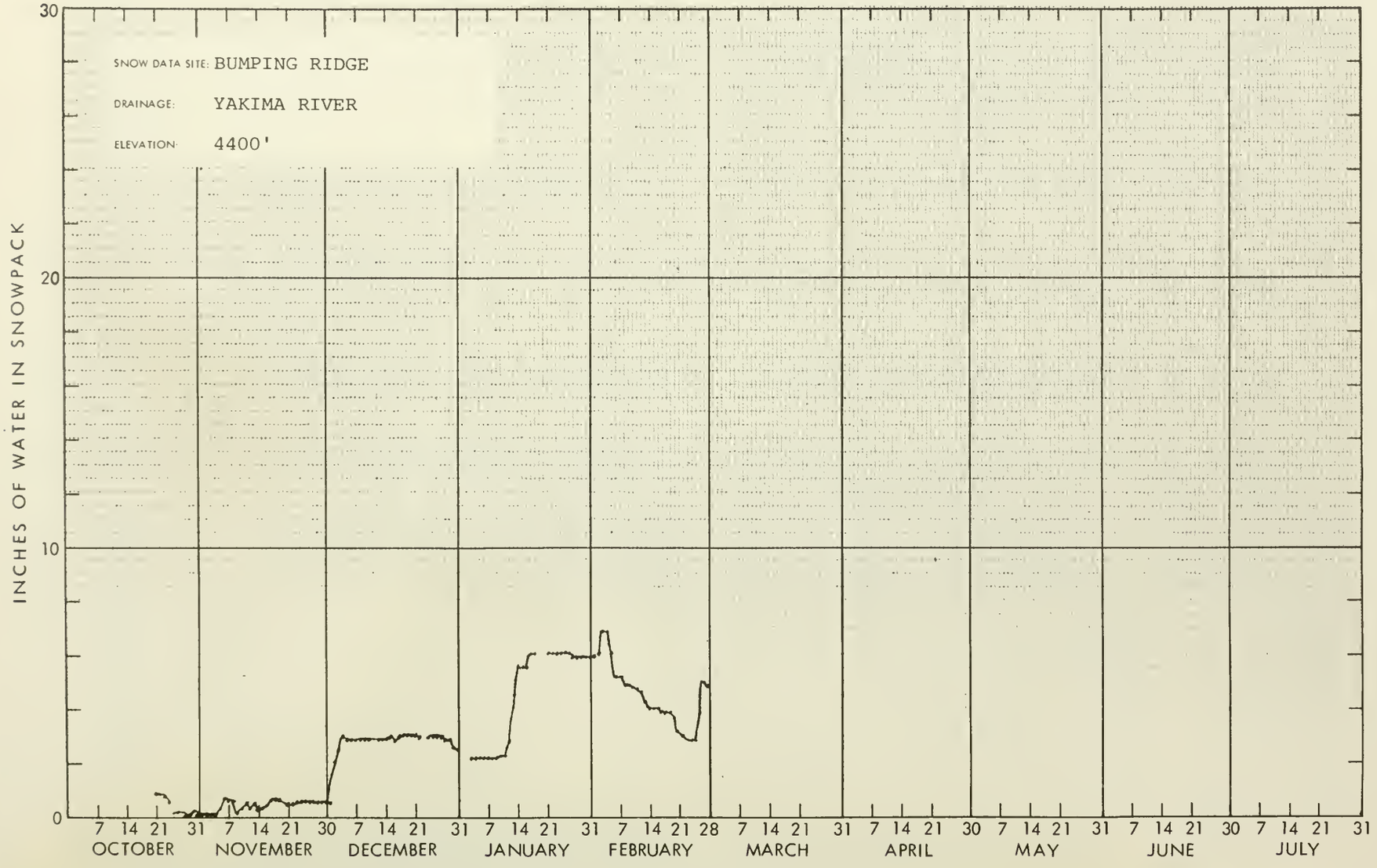
JUNE
JULY

WSFB-X138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DRAINAGE: YAKIMA RIVER
ELEVATION: 4400'
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20
10
0
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OCTOBER
NOVEMBER
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JUNE
JULY

SNOW DATA TO MARCH 1, 1980 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
UPPER COLUMBIA DRAINAGE							
PEND OREILLE RIVER							
Baree Creek	15B11	5500	2/28	69	27.4	36.7	43.8
Baree Midway	15B16	4600	2/28	59	21.4	32.7	34.0
Baree Trail	15B15	3800	2/28	14	4.8	9.7	10.0
Benton Meadow	16A02	2344	2/27	16	4.8	7.0	6.4
Benton Spring	16A03	4900	2/27	37	12.6	17.5	17.7
Boyer Mountain	17A02	5250	2/26	52	16.9	19.8	23.1
Brush Creek Timber	14A13	5000	2/27	25	5.9	11.0	9.5
Chewelah	17A04	4923	3/1	32	10.4	12.0	14.3
Heart Lake Trail	14C10	4800	2/24	45	14.1	23.1	21.1
Hoodoo Basin	15C10	6000	2/24	97	37.2	42.3	45.4
Hoodoo Creek	15C01	5900	2/24	91	34.5	40.2	42.0
Lookout	15B02	5250	2/28	62	20.6	27.8	31.0
Mosquito Ridge	16A04A	5100	2/27	68	24.1	31.4	34.6
Nelson	19-Can	3050	2/28	40	12.7	13.7	14.4*
Schweitzer Bowl	16A06	4500	2/28	55	21.1	24.3	28.1
Schweitzer Ridge	16A05	6100	2/28	104	42.8	30.8	40.3
Winchester Creek	17A03	2970	2/25	28	8.0	9.0	10.6
KETTLE RIVER							
Barnes Creek	90-Can	5300	3/2	34	9.5	16.9	17.9*
Big White Mtn.	154-Can	5500	3/2	47	14.3	13.8	17.2*
Boulder Road	18A02	1450	2/26	12	3.5	4.2	4.5
Butte Creek	18A03	4070	2/26	30	7.8	5.8	8.5
Cabin Creek	18A08	3170	2/26	22	6.0	5.9	7.2
Carmi	126-Can	4100	3/2	16	4.3	5.2	6.3*
Farron # 1	17-Can	4000	2/29	37	10.8	8.0	12.2*
Farron # 2	243-Can	4000	2/29	39	12.0	9.6	11.6*
Goat Creek	18A04	3595	2/26	22	6.0	5.4	6.5
Graystoke Lake	5-Can	5950	2/28	29	8.5	12.4	16.0*
Monashee Pass	48A-Can	4500	3/2	24	5.7	11.9	12.7*
Snow Caps Creek	18A05	2150	2/26	14	3.8	4.1	4.8
Snow Caps Trail	18A06	2720	2/26	19	5.4	5.0	5.8
Summit G.S.	18A07	4600	2/26	24	4.8	4.8	7.3
Trapping Creek Lower	166-Can	3050	3/2	15	4.3	4.3	5.3*
Trapping Creek Upper	165-Can	4450	3/2	26	6.9	9.6	9.4*
COLVILLE RIVER							
Baird	17A06	3215	2/29	16	4.8	9.5	6.7
Carlson	18A09	2885	3/1	8	2.6	5.3	4.2
Chewelah	17A04	4925	3/1	32	10.4	12.0	14.3
Stranger Mountain	17A05	4990	3/1	28	9.6	11.8	12.5
Togo	18A10	3370	3/1	28	8.9	9.8	10.8

\# Average based on 1963-77 average
* Average for years of record

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MARCH 1, 1980 - APPENDIX 2

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
SPOKANE RIVER							
Above Burke	15B08	6100	2/28	35	11.6	23.6	22.9
Copper Ridge	16B02	4800	2/27	33	11.2	27.7	25.1
Forty-nine Meadows	15B03	5000	2/29	47	14.9	23.4	27.2
Fourth of July Summit	16B03	3100	2/28	8	2.8	12.4	8.9
Granite Peak	15B13A	6000	2/29	85	26.6	-	39.5
Kellogg Peak	16B05A	5560	2/27	55	19.6	31.0	28.2
Lookout	15B02	5250	2/28	62	20.6	27.8	31.0
Lost Lake	15B14A	6000	2/29	97	29.9	36.7	50.0
Lower Sands Creek	16B01	3400	2/27	26	8.4	18.5	17.5
Mosquito Ridge	16A04A	5110	2/27	68	24.1	31.4	34.6
Roland Summit	15B05A	5200	2/27	56	19.6	29.0	31.3
Sherwin	16C01	3200	2/27	17	5.8	15.7	13.3
Sunset	15B09A	5600	2/27	76	24.3	32.3	32.6
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	2/29	16	4.3	6.5	6.1*
Blackwall Mountain	100-Can	6250	2/28	67	26.5	21.7	30.6*
Bouleau Lake	234-Can	4580	2/24	32	7.1	9.7	11.5*
Brenda Mine	193-Can	4800	2/27	37	9.0	10.5	12.7*
Brookmere	27-Can	3200	2/29	23	7.5	7.2	9.0*
Carrs Landing Upper	168-Can	3200	3/1	Late Report		4.1	4.7*
Enderby	130-Can	6250	2/29	72	21.2	22.1	32.3*
Esperon Creek Lower	164-Can	4400	2/29	26	7.1	7.9	10.9*
Esperon Creek Middle	163-Can	4700	2/29	32	9.4	10.6	13.5*
Esperon Creek Upper	163-Can	5400	2/29	35	9.9	12.3	16.5*
Graystoke Lake	5-Can	5950	2/28	29	8.5	12.4	16.0*
Hamilton Hill	107-Can	4900	2/25	41	12.2	11.6	14.1*
Harts Pass	20A05A	6500	2/27	103	33.5	29.3	41.1
Horseshoe Basin +	19A05a	7000	2/29	44	11.9	12.0	16.3
Isintok Lake	152-Can	5510	3/1	20	4.7	6.8	7.8*
Lost Horse Mountain	105-Can	6300	3/3	33	6.4	-	7.7*
Loup Loup	19A07	4650	2/27	38	10.4	4.1	8.8
McCulloch	4-Can	4200	2/25	23	5.0	6.5	6.4*
Missezula Mountain	106-Can	5100	2/26	28	7.5	7.4	9.1*
Mission Creek	5A-Can	6000	2/28	41	10.9	14.6	17.5*
Monashee Pass	48A-Can	4500	3/2	24	5.7	11.9	12.7*
Mount Kobau	156-Can	5950	2/28	35	9.0	3.7	10.9*
Muckamuck +	19A09a	6390	2/29	44	11.0	7.6	14.7
Mutton Creek No. 1	19A01	5700	2/27	40	10.9	4.7	12.7
Mutton Creek No. 2SP	19A11SP	6000	2/27		8.6	3.6	10.0
New Copper Mountain	46A-Can	4300	2/28	18	4.7	6.7	5.8*
New Penticton Res. #2	183-Can	5225	2/28	24	5.9	6.3	8.0*
Nickel Plate Mtn.	47-Can	6200	2/28	25	7.0	6.7	7.2*
Oyama Lake	203-Can	4400	2/29	16	4.6	6.1	6.8*
Paysayten +	20A28a	4300	2/29	44	13.2	12.8	16.9

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

WSFB-X4-L

SNOW DATA TO MARCH 1, 1980 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
OKANOGAN RIVER (Cont.)							
Postill Lake	55-Can	4500	2/29	19	4.6	7.3	7.6*
Quartette Lake	34-Can	4000	2/27	31	9.1	8.4	8.8*
Rusty Creek	19A03	4000	2/27	24	6.2	3.7	6.6
Salmon Meadows	19A02	4500	2/27	40	9.3	4.4	9.4
Silver Star Mountain	99-Can	6050	3/2	54	17.2	15.2	24.1*
Starvation Mtn +	19A10a	6750	2/29	60	16.2	8.4	17.5
Summerland Reservoir	3A-Can	4200	3/2	24	6.7	8.1	9.0*
Touts Coulee	19A06	2845	2/28	10	3.3	1.3	3.5
Trout Creek	3-Can	4700	2/28	19	4.1	6.4	6.6*
Vaseux Creek	233-Can	4600	3/1	17	4.3	3.6	6.4*
White Rocks Mountain	70-Can	6000	2/29	46	14.3	16.6	19.7*
METHOW RIVER							
Billy Goat Pass +	20A10a	6409	2/29	94	25.4	-	31.3
Harts Pass	20A05A	6500	2/27	103	33.5	29.3	41.1
Horseshoe Basin +	19A05a	7000	2/29	44	11.9	12.0	16.3
Loup Loup	19A07	4650	2/27	38	10.4	4.1	8.8
Mutton Creek No. 1	19A01	5700	2/27	40	10.9	4.7	12.7
Mutton Creek No. 2 SP	19A11SP	6000	2/27		8.6	3.6	10.0
Rusty Creek	19A03	4000	2/27	24	6.2	3.7	6.6
Salmon Meadows	19A02	4500	2/27	40	9.3	4.4	9.4
CHELAN LAKE BASIN							
Little Meadows +	20A24a	5275	2/29	107	36.4	35.6	37.6
Lyman Lake	20A23A	5900	3/6	116	45.8	38.2	49.8
Park Creek Ridge	20A12A	4600	2/29	117	39.8	31.3	44.2
Rainy Pass	20A09	4780	2/27	85	28.8	26.0	37.0
ENTIAT RIVER							
Blue Creek G.S.	20B28a	5425	2/29	96	31.7	28.1	33.8
Brief	20B19	1600	2/23	28	7.8	9.4	7.5
Entiat Meadows +	20A33a	4540	2/29	108	35.6	27.5	57.7
Entiat River Trail +	20A34a	3325	2/29	70	20.3	18.9	25.6
Four Mile Ridge +	20B27a	6800	2/29	84	27.7	16.2	28.4
Fox Camp +	20A36a	6510	2/29	146	48.2	32.9	52.9
Pope Ridge	20B20	3540	2/28	52	14.8	14.9	18.2
Pugh Ridge +	20A32a	6725	2/29	97	32.0	21.9	40.8
Shady Pass	20A37	6200	2/27	66	21.8	18.4	23.7
Snow Brushy +	20A35a	3910	2/29	99	28.7	25.1	35.8
Tommy Creek +	20B21a	4900	2/29	52	17.2	18.4	26.5

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1977

SNOW DATA TO MARCH 1, 1980 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
WENATCHEE RIVER							
Berne-Mill Creek	21B23	2925	2/14	66	21.3	20.2	24.5
			2/27	62	21.8	27.8	26.0
Berne-Mill Creek New SP	21B41	3240	2/27	58	21.1	26.6	24.0
Blewett Pass No. 2	20B02	4270	2/26	42	15.0	15.0	15.0
Chiwaukum G.S.	20B16	1810	2/14	37	10.2	8.8	11.0
			2/27	33	10.3	11.4	11.6
Fish Lake	21B04	3371	2/29	67	25.3	19.8	31.1
Lake Wenatchee	20B05	1970	2/14	39	11.4	13.6	13.5
			2/27	35	11.4	16.0	14.4
Leavenworth R.S.	20B17	1127	2/11	23	3.5	6.8	5.5
			2/25	23	5.3	8.1	4.4
Lyman Lake	20A23A	5900	3/6	116	45.8	38.2	49.8
Merritt	20B18	2140	2/14	39	12.1	15.8	15.5
			2/27	35	11.8	17.0	15.8
Stevens Pass	21B01	4070	2/14	96	33.9	32.3	43.5
			2/27	97	36.0	46.0	48.0
Stevens Pass Sand Shed	21B45	3700	2/14	70	23.8	25.5	32.1
			2/27	70	24.7	35.0	34.9
SQUILCHUCK CREEK							
Beehive Springs	20B03	4400	2/27	34	11.7	8.0	8.1
Scout-A-Vista	20B04	3400	2/27	38	10.8	7.7	8.2
STEMILT CREEK							
Jump-Off	20B08	4450	2/26	37	12.0	11.0	8.4
Stemilt Slide	20B06	5000	2/26	47	14.6	13.4	13.1
Upper Wheeler	20B07	4400	2/26	39	12.9	10.9	9.7
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	2/28	31	9.6	10.4	13.3
Colockum Creek Lower	20B23	4300	2/28	38	13.0	10.3	10.1
Trough # 2	20B25SP	5310		Not Measured		12.0	New
YAKIMA RIVER							
Ahtanum R.S.	21C11	3100	2/26	35	10.7	5.4	6.7
Big Boulder Creek	21B09	3200	2/29	42	15.0	19.5	19.3
Blewett Pass No. 2	20B02	4270	2/26	42	15.0	15.0	15.0
Bumping Lake	21C08	3450	2/13	52	14.6	7.5	14.8
			2/28	49	16.7	11.0	20.4
Bumping Lake New	21C36	3400	2/13	59	18.0	11.5	18.5
			2/28	55	19.4	14.8	20.2
Cayuse Pass	21C06	5300	2/22	134	52.5	55.7	71.0
Colockum Pass	20B09	5370	2/26	45	16.1	11.6	14.2
Cooke Creek	20B10	4123	2/26	22	6.3	5.4	5.7
Corral Pass	21B13	6000	2/29	64	24.5	29.7	35.1

Average based on 1963-77 average

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MARCH 1, 1980 - APPENDIX 5

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
YAKIMA RIVER (Cont.)							
Fish Lake	21B04	3371	2/29	67	25.3	19.8	31.1
Green Lake	21C10	6000	2/26	76	29.3	24.2	29.6
Grouse Camp	20B11	5385	2/28	49	17.8	14.2	15.5
High Creek	20B12	2930	2/28	23	7.7	6.8	6.1
Joe Lake +	21B46a	4624	2/21	114	37.4	53.0	53.5
Lake Cle Elum	21B14M	2200	2/14	32	6.5	9.6	9.2
			2/29	21	6.3	10.8	9.2
Lemah Creek +	21B47a	3327	2/21	96	31.5	33.7	41.9
Manashtash	20C01	3935	2/28	23	7.3	5.3	4.3
Morse Lake	21C17	5400	2/28	116	45.7	35.4	47.2
Nanum	21B39	2340	2/28	29	8.8	8.5	9.8
Olallie Meadows	21B02	3625	2/29	56	23.0	39.2	44.8
Satus Pass	20D01	4030	2/27	20	7.2	8.8	9.1
Stampede Pass SP	21B10	3860	2/14	84	30.7	32.8	36.2
			2/28	75	32.5	40.7	35.7
Trail Creek	20B14	3360	2/26	14	4.0	5.0	2.6
Tunnel Avenue	21B08	2450	2/11	54	17.4	14.6	19.9
			2/26	49	17.6	19.3	21.6
Van Epps Pass +	20B26a	5925	2/21	98	32.1	35.4	43.0
Walters Flat	20B15	3360	2/28	29	8.7	7.4	7.1
Waptus Lake +	21B49a	3024	2/21	69	22.6	31.6	41.4
White Pass (E. Side)	21C28	4500	2/12	56	16.6	16.2	21.0
			2/27	62	19.0	22.6	23.1
AHTANUM CREEK							
Ahtanum R.S.	21C11	3100	2/26	35	10.7	5.4	6.7
Green Lake	21C10	6000	2/26	76	29.3	24.2	29.6
LOWER COLUMBIA DRAINAGE							
ASOTIN CREEK							
Spruce Springs	17C04	5700	2/25	48	16.8	22.7	22.6
MILL CREEK							
Homestead	17C01	4030	2/27	20	7.1	10.8	8.2
Martin Springs	17C02	4400	2/27	30	9.6	14.8	12.1
Tollgate	18D3M	5070	2/27	47	18.7	27.7	22.1
KLICKITAT RIVER							
Satus Pass	20D01	4030	2/27	20	7.2	8.8	9.1
COWLITZ RIVER							
Cayuse Pass	21C06	5300	2/22	134	52.5	55.7	71.0
White Pass (E. Side)	21C28	4500	2/12	56	16.6	16.2	21.0
			2/27	62	19.0	22.6	23.1

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MARCH 1, 1980 - APPENDIX 6

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
PUGET SOUND DRAINAGE							
WHITE RIVER							
Cayuse Pass	21C06	5300	2/22	134	52.5	55.7	71.0
Corral Pass	21B13	6000	2/29	64	24.5	29.7	35.1
Morse Lake	21C17	5400	2/28	116	45.7	35.4	47.2
GREEN RIVER							
Airstrip	21B24	1800	2/29	0	0.0	5.0	5.1
Charley Creek	21B25	1200	2/29	0	0.0	-	1.2
Cougar Mountain SP	21B42SP	3200	2/29	17	6.9	21.9	20.9
Grass Mtn. No. 2	21B27	2900	2/29	30	10.3	-	19.1
Grass Mtn. No. 3	21B28	2100	2/29	0	0.0	-	5.7
Lester Creek	21B29	3100	2/29	47	16.3	21.8	21.7
Lynn Lake	21B50	4000	2/29	16	5.1	-	18.7
Sawmill Ridge	21B31	4700	2/29	56	19.1	29.3	33.7
Snowshoe Butte SP	21B43SP	5000	2/29	100	41.0	46.0	52.7
Stampede Pass SP	21B10	3860	2/14	84	30.7	32.8	36.2
			2/28	75	32.5	40.7	35.7
Twin Camp	21B30	4100	2/29	42	15.9	24.4	22.3
CEDAR RIVER							
City Cabin	21B03	2390	2/25	23	9.3	14.0	17.2
Mt. Gardner	21B21	3300	2/27	15	7.0	18.2	18.7
Mt. Lindsay	21B16	2500	2/25	24	7.9	15.0	15.1
Mt. Washington New	21B15	3000	2/27	0	0.0	10.1	8.8
Rex River	21B17	2400	2/27	23	8.6	17.5	12.7
S. F. Cedar	21B06	3000	2/25	25	9.3	14.3	19.7
Tinkham Creek	21B20	3400	2/25	43	16.6	18.9	22.9
SNOQUALMIE RIVER							
Alpine Meadow	21B48	3500	2/26	35	14.2	40.1	41.2
Lake Elizabeth	21B19	2900	3/1	Not Measured		40.1	37.7
Olallie Meadows	21B02	3625	2/29	56	23.0	39.2	44.8
S. F. Tolt	21B18	1900	2/26	0	0.0	8.6	3.2
SKYKOMISH RIVER							
Lake Elizabeth	21B19	2900	3/1	Not Measured		40.1	37.7
Stevens Pass	21B01	4070	2/14	96	33.9	32.3	43.5
			2/27	97	36.0	46.0	48.0
Stevens Pass Sand Shed	21B45	3700	2/14	70	23.8	25.2	32.1
			2/27	70	24.7	35.0	34.9

Average based on 1963-77 average

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MARCH 1, 1980 - APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	2/26	27	9.7	13.0	14.9
Beaver Pass	21A01	3680	2/26	59	20.1	19.1	28.7
Brown Top Ridge +	21A28a	6000	2/26	115	42.8	34.4	61.2
Cloudy Pass +	20A22a	6500	3/1	Not Measured		31.1	35.0
Devils Park	20A04	5900	2/27	85	29.8	29.0	41.3
Freezeout Creek Trail	20A01	3500	2/28	31	8.9	11.3	12.7
Freezeout Meadows New	20A38	5000	2/28	58	20.1	29.0	42.5
Granite Creek	21A29A	3500	2/27	41	13.0	15.2	19.2
Harts Pass	20A05A	6500	2/27	103	33.5	29.3	41.1
Klesilkwa	35B-Can	3700	3/1	Late Report		13.1	12.7*
Lyman Lake	20A23A	5900	3/6	116	45.8	38.2	49.8
Meadow Cabins	20A08	1900	2/28	9	4.2	10.6	7.4
New Hozomeen Lake	21A30	2800	2/28	28	8.7	10.6	14.2
New Tashme	26A-Can	2500	2/29	20	4.5	11.7	11.2*
Quartette Lake	34-Can	4000	2/27	31	9.1	9.8	8.8*
Rainy Pass	20A09	3780	2/27	85	28.8	26.0	37.0
Thunder Basin	20A07	4200	2/27	33	11.8	19.1	20.9
BAKER RIVER							
Dock Butte	21A11A	3800	2/29	71	28.0	58.0	64.2
Easy Pass	21A07A	5200	2/29	119	48.0	52.0	71.3
Jasper Pass	21A06A	5400	2/29	126	50.0	71.0	82.5
Marten Lake	21A09A	3600	2/29	98	39.0	-	71.8
Mount Blum +	21A18a	5800	2/29	92	37.0	46.0	62.1
Panorama New	21A26	4300	2/16	105	43.5	27.2	56.8
			3/1	91	45.0	40.3	66.0
Rocky Creek	21A12A	2100	2/29	32	13.0	36.0	30.4
Schreibers Meadow	21A10A	3400	2/29	66	26.0	69.0	54.5
S. F. Thunder Creek	21A14A	2200	2/29	Trace		12.0	11.7
Watson Lakes	21A08A	4500	2/29	68	27.0	53.0	60.9
NOOKSACK RIVER							
Bald Mountain +	21A19a	4400	3/1	Late Report		43.2	46.2
Canyon +	21A20a	5100	3/1	Late Report		41.8	58.1
Glacier Creek	21A23	3700	2/29	5.8	2.7	23.1	15.1
Panorama New	21A26	4300	2/16	105	43.5	27.2	56.8
			3/1	91	45.0	40.3	66.0
Twin Lakes +	21A21a	5200	3/1	Late Report		59.0	70.4

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MARCH 1, 1980 - APPENDIX 8

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
						Last Year	Average #
OLYMPIC PENINSULA							
DUNGENESS RIVER							
Deer Park	23B04	5200	2/27	30	10.8	16.6	18.3
MORSE CREEK							
Cox Valley	23B14	4500	2/28	56	21.2	27.1	36.5
ELWHA RIVER							
Hurricane	23B03	4500	2/29	21	7.0	18.5	20.3

USDA SCS PORTLAND OREGON 1973

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
  Corps of Engineers
U. S. Department of Agriculture
  Forest Service
U. S. Department of Commerce
  NOAA, National Weather Service
U. S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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Water Supply Outlook For Washington

SOIL CONSERVATION SERVICE
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TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

WATER SUPPLY OUTLOOK FOR WASHINGTON

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

Issued by

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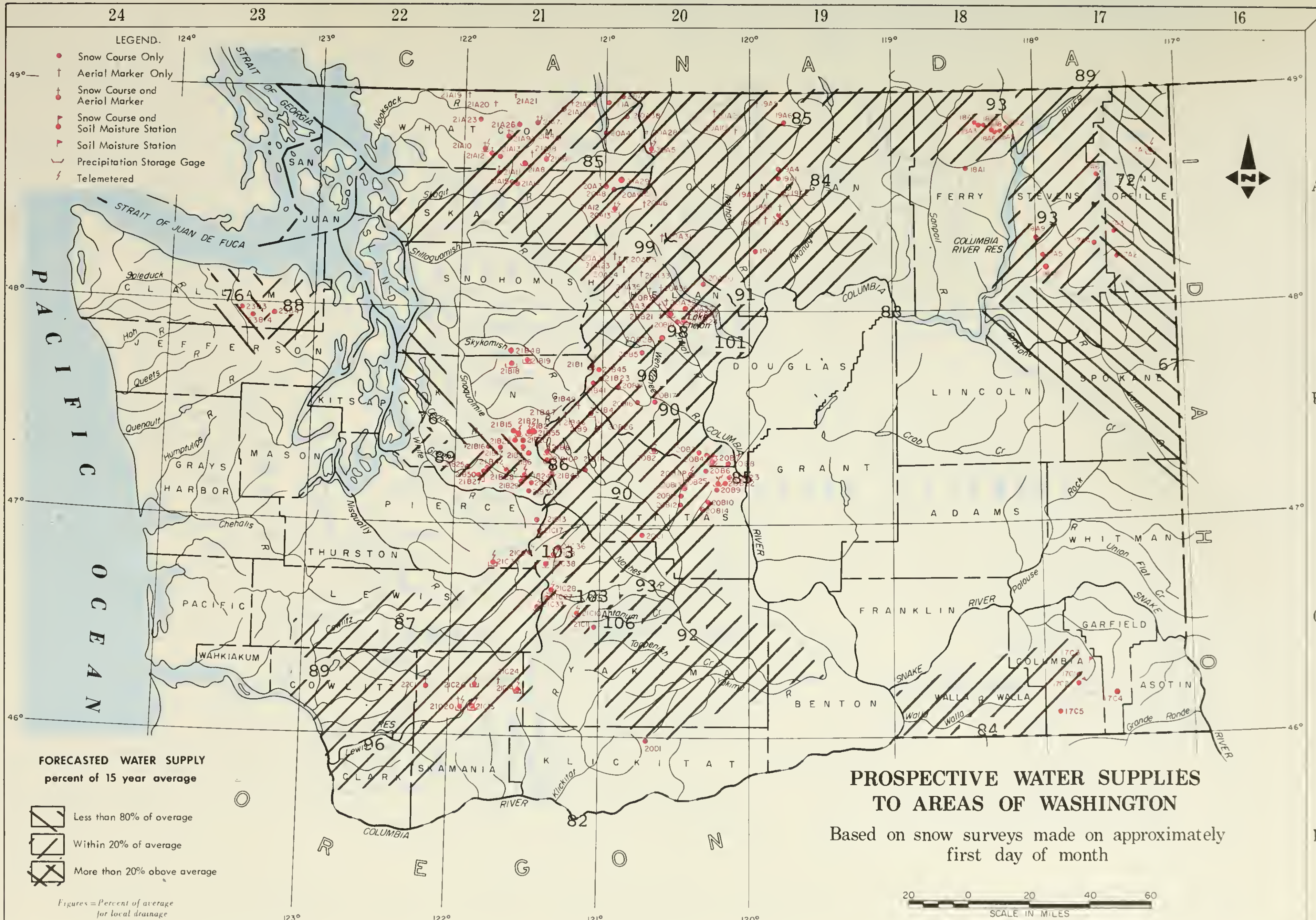
SPOKANE, WASHINGTON 99201

USDA SCS PORTLAND, OR 1979 M7-OL-22028D

PROSPECTIVE WATER SUPPLIES TO AREAS OF WASHINGTON

Based on snow surveys made on approximately first day of month



INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boyer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cobin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Colville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Cheweloh	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Togo	18A10	6	29N	38E	3370

Sanpoil River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okonogon River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Mutton Creek No. 1	19A1	30	37N	24E	5700
Mutton Creek No. 2	19A4	19	37N	24E	6000
Poysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Touts Coulee	19A6	30	39N	25E	2845

Methow River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Poss	20A10a	10	38N	20E	6400
Dollor Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650

Chelon Lake Bosin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cloudy Poss	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Pork Creek Ridge	20A12SP	18	34N	16E	4600
Petersons	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Poss	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shody Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leovenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Poss	21B1SP	14	26N	13E	4070
Stevens Poss Sond Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

Colockum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colockum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300

Squilchuck C eek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Visto	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yokimo River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Comp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manostosh	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Troil Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Von Epps Poss	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asotin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Touchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Couse	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530

Klickitot River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Poss	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lone Pine Shelter	21C26SP	8	9N	7E	3800
Ploins of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cowlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtoil Peak	21C33 SP	11	13N	11E	5900
Pototo Hill	21C14 SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Poradise Pork (New)	21C35 SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Corral Pass	21B13 SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sowmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stompede Poss	21B10 SP	25	21N	11E	3860
Twin Comp	21B30	18	19N	11E	4100

Cedor River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gordner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedor	21B6P	24	21N	10E	3000
Tinkhom Creek	21B20P	1	21N	10E	3400

Snoqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700

Skykomish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Loke Elizobeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beover Creek Trail	21A4	35	39N	12E	2200
Beover Poss	21A1	9	39N	12E	3680
Brawn Top	21A28a	26	40N	12E	6000
Devils Pork	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeout Meadows (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hozmeen Lake	20A7	19	40N	14E	2800
Thunder basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dock Butte	21A11A	8	36N	8E	3800
Easy Poss	21A7A	19	39N	11E	5200
Jasper Poss	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500

Nooksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panoramo New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Pork	23B4	1	28N	5W	5200

Morse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Volley	23B14	31	29N	6W	4500

Elwho River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A p	Precipitation Storage Gage
21A7SP	Snow Pillow

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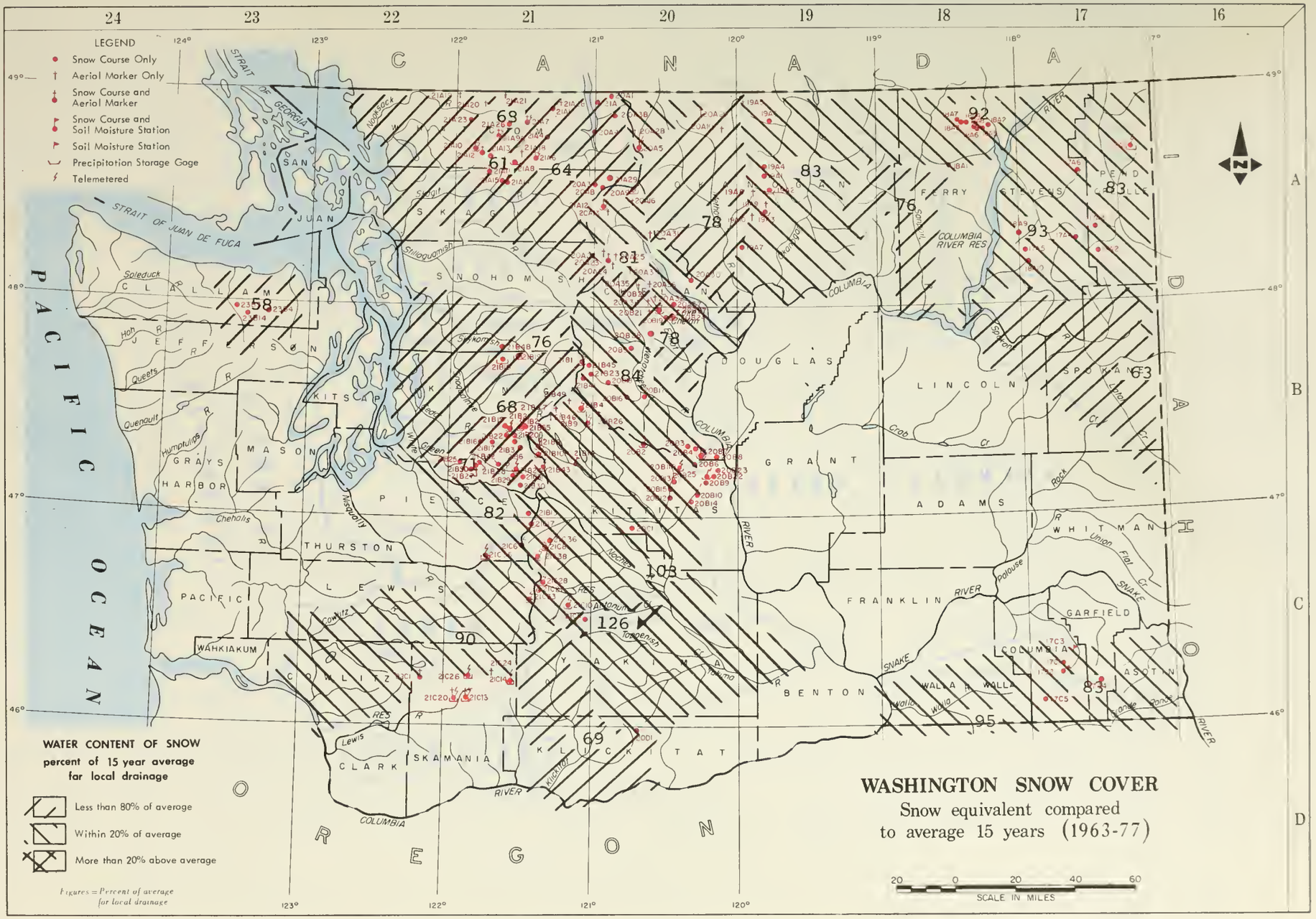

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NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
UPPER COLUMBIA DRAINAGE					
Pend Oreille River					
Bayer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970
Kettle River					
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snow Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600
Calville River					
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Toga	18A10	6	29N	38E	3370
Sanpail River					
Sherman Creek Pass	18A1	19	36N	35E	5350
Okanagan River					
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Muttan Creek No. 1	19A1	30	37N	24E	5700
Muttan Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadows	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Tauts Coulee	19A6	30	39N	25E	2845
Methow River					
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Harseshoe Basin	19A5a	15	40N	23E	7000
Loup Loup	19A7	36	34N	23E	4650
Chelan Lake Basin					
Cloudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadows	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersans	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500
Entiat River					
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadows	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Four Mile Ridge	20B27a	15	28N	19E	6800
Fox Camp	20A36a	17	30N	18E	6510
Pope Ridge	20B20	22	29N	18E	3540
Pope Ridge Snow Pillow	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A37	20	29N	19E	6200
Snow Brushy	20A35a	21	30N	17E	3910
Tommy Creek	20B21a	10	28N	18E	4900
Wenatchee River					
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Trough #2	20B25SP	10	20N	20E	5310

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Calackum Creek					
Calackum Creek Upper	20B22	11	20N	20E	5300
Calackum Creek Lower	20B23	1	20N	20E	4300
Squilchuck Creek					
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400
Stemilt Creek					
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400
Yakima River					
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Calackum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grouse Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Jae Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Marse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Asatin Creek					
Spruce Springs	17C4	9	8N	40E	5700
Touchet River					
Cause	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530
Klickitat River					
Satus Pass	20D1	21	6N	17E	4030

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lewis River					
Lone Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250
Cowlitz River					
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Nisqually River					
Paradise Park (New)	21C35SP	13	15N	8E	5500
White River					
Corral Pass	21B13SP	30	18N	11E	6000
Green River					
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100
Cedar River					
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400
Snoqualmie River					
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	8700
Skykomish River					
Lake Elizabeth	21B19P	33	26N	10E	2900

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Skagit River					
Beaver Creek Trail	21A4	35	39N	12E	2200
Beuver Pass	21A1	9	39N	12E	3680
Brown Tap	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeaut Meadows (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadows Cabins	20A8	29	36N	14E	1900
New Hazameen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200
Baker River					
Dock Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Mount Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadow	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500
Naaksack River					
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panorama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dungeness River					
Deer Park	23B4	1	28N	5W	5200
Marse Creek					
Cox Valley	23B14	31	29N	6W	4500
Elwha River					
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A p	Precipitation Storage Gage
21A SP	Snow Pillow

WATER SUPPLY OUTLOOK

State of Washington

April 1, 1980

The snow survey measurements made as of April 1 are considered the key measuremnts of the year. Generally speaking, the maximum snow water equivalent is reached by April 1 at most snow courses with only a few high elevation courses peaking out as of May 1, and the low elevation courses having already peaked out as of March 1. Forecasts prior to April 1 are generally prepared with a normal increment of snow to April 1. From March 1 to April 1 in 1980, this normal increment generally occurred, so very little change is being reported from March 1 to April 1. The mainstem of the Columbia River is now expected to flow from 82 to 89 percent of normal with the better flows coming out of British Columbia and the lesser flows from the Snake and Washington tributary basins. The Clark Fork-Pend Oreille system is only expected to have 72 percent normal outflows and the Spokane 67 percent. A slight improvement occurred in the Okanogan River system where now we can expect 85 percent normal outflows from the Similkameen and 84 percent from the Okanogan. The Methow River system is expected to have an outflow of 91 percent. Above normal conditions can be expected from the Chelan River system with the Wenatchee running 10 percent below normal. The Yakima Basin can expect a 92 percent outflow, as measured at Parker, and the individual stations in the Yakima Basin range from a low of 86 percent to a high of 106 percent. In the Lower Columbia River system, we can expect outflows in the Mill Creek area of 84 percent of normal, 96 percent in the Lewis River, and 87 for the Cowlitz. Over on the Olympic Peninsula, we can expect an 88 percent outflow for the Dungeness, dropping to a 76 percent for the Elwha. In the Puget Sound Drainage, we can expect an 85 percent outflow for the Skagit River, 89 for the Green, and 76 percent for the Cedar. All of the above numbers are April-September flows. The snowpack throughout the basin now stands from a low of 63 percent of normal to a high of 103 percent in the Upper Columbia Basin and from a low of 69 percent to a high of 95 in the Lower Columbia. In the Puget Sound Drainage, the snowpacks range from 58 percent of normal for the Cedar to a high of 82 percent on the White. The Olympic Peninsula still has the lowest of any recorded basin with the Elwha recording only 40 percent of normal snowpacks while the Dungeness has a high of 69 percent. Winter precipitation was reported to be subnormal in five of the eight drainage divisions as reported by the National Weather Service, as was March's precipitation. Water flow during the month of March was generally subnormal with only the Green, the Skagit, the Kettle, the Yakima, the Walla Walla, and Klickitat Rivers having above normal outflows for the month. Reservoir storage is generally subnormal for the irrigation reservoirs and only F. D. Roosevelt has an above normal amount of water in storage as of April 1 for the power reservoirs. With the expected outflow, all reservoirs should fill wih the spring runoff.

SNOW COVER

In the Upper Columbia Basin, the Pend Oreille River, as measured by 16 snow courses, has a snowpack that is 3 percent greater than last year, but 17 percent below average. The Kettle River, measured by 16 snow courses, has a snowpack that is 108 percent greater than last year and 8 percent less than average. The Okanogan, measured by 36 snow courses, has a snowpack that is 54 percent greater than last year and 17 percent less than average. The Yakima, measured by 23 snow courses, also has a snowpack that is 54 percent greater than last year, but in this basin the snowpack is 3 percent above averge. Along the Lower Columbia, the Klickitat is measured by one snow course and this course is 200 percent greater than measured last year at this time but still 31 percent below normal. In the Walla Walla Drainage, there are two snow courses measured in the Mill Creek area and these have a snowpack 6 percent below last year and 5 percent below average. Currently, we measure no snow courses in the Lewis River but a special effort is being organized at this time to start making some measurements at the old snow courses in the Lewis River Drainage to try and find out what effect the Mt. St. Helens' eruption will have on the sowpack in this area. This informtion will be reported next month. The best snow courses in the Puget Sound Drainage are in the White River Drainage where two snow courses were measured which indicate the snow pack to be 18 percent below normal. The poorest drainage is the Cedar where seven snow courses were measured but these had a snowpack that was 25 percent greater than last year but still 42 percent below normal. On the Olympic Peninsula, a snow course measured in the Dungeness Drainage area has a snowpack that is 69 percent of normal, but 23 percent below last year. The Elwha, measured by one snow course, has a snowpack that is only 40 percent of normal and 39 percent less than was measured last year at this time.

RESERVOIRS

The five irrigation reservoirs in the Yakima Drainage have a total capacity of 1,066,000 acre feet. The current storage in these reservoirs is 673,900 acre feet or 63 percent of capacity. The average storage for April 1 in the five reservoirs is 741,500 acre feet and the current storage is 91 percent of average. In the Okanogan Drainage, the two small reservoirs belonging to the Okanogan Irrigation District have a total capacity of 23,000 acre feet. The current storage in these reservoirs is 12,300 acre feet and the average is 14,700 acre feet. Current storage is, therefore, 53 percent of capacity and 84 percent of average. The three power reservoirs currently being reported - F. D. Roosevelt, Ross, and Chelan Lake - have water in storage that is 9 percent above normal for F. D. Roosevelt, 32 percent below normal for Ross, and 50 percent below for Chelan Lake.

PRECIPITATION

The National Weather Service reports that precipitation over the Columbia Basin portion of Washington and tributary areas was 93 percent of normal for the Columbia above Castlegar and the Pend Oreille - Spokane Drainage Divisions. Northeastern Washington, which takes in the Kettle, Sanpoil, and Lincoln County, was 10 percent above normal. Southeastern Washington was 29 percent above normal. In the central Cascade area, the Okanogan, or northcentral Washington was deficient by 37 percent and the Yakima-Wenatchee-Chelan area was deficient by 27 percent. On the west slopes of the Cascades, the northwestern area had precipitation that was 9 percent above normal but the southwestern slopes were 15 percent below average. The accumulation of precipitation from November through March shows that the rainfall for the Columbia above Castlegar Division was 11 percent below normal. The Pend Oreille-Spokane was 24 percent below normal; the Northeastern and Southeastern Drainage Divisions both 3 percent above normal; the central portion of the state, east of the Cascades, was 30 percent above normal while the Okanogan and northwestern slopes were both 8 percent below normal and the southwestern slopes 16 percent below average.

STREAMFLOW

Forecasts of streamflow, as reported above, are similar to those reported last month. The Columbia River, as measured at The Dalles, is expected to have an outflow 85,000,000 acre feet or 82 percent of normal, up 1 percent from last month. The Pend Oreille, as measured below Box Canyon, is 11,300,000 acre feet - up 2 percent from last month. The forecast for the Kettle River is up 8 percent from last month's forecast and the Okanogan is 5 percent better than last month. The Methow and Chelan are expected to have an outflow 1 percent greater than last month and the Wenatchee River - 2 percent less. In the Yakima Basin, the Parker forecast is considered the accumulation of all the high elevation outflows and this forecast is increased 2 percent from 1,950,000 to 2,000,000 acre feet. The forecast of the Lewis River has been increased 4 percent and we now expect 1,250,000 acre feet outflow for the Lewis at Ariel and the Cowlitz River at Castlerock has been dropped 4 percentage points, to 2,470,000 acre feet. In spite of the poor snow in the Dungeness River area, the forecast has been increased 7 percent to 140,000 acre feet and the Skagit River has been increased 3 percentage points to 2,000,000 acre feet. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - FEBRUARY, 1980

The following summarized runoff forecasts are based principally on mountain snowcover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1979 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-yr. Avg.	Forecast period	1979	1978	1977	15-Yr. Average 63-77
COLUMBIA BASIN							
COLUMBIA RIVER SYSTEM							
Columbia River	40600	89	Apr-Sept	34484	44008	31562	45502
at Birchbank 1/	32400	89	Apr-July	27181	34030	23812	36353
	23200	89	Apr-June	19661	24082	18026	26194
Columbia River	56500	83	Apr-Sept	52769	66868	41056	68012
at Grand Coulee 1/	47500	83	Apr-July	44096	54559	32018	57035
	36700	83	Apr-June	35138	41585	25623	44273
Columbia River	62900	85	Apr-Sept	55298	72892	43415	73935
bl. Rock Island Dam 1/	53300	85	Apr-July	46700	60163	34253	62462
	41200	85	Apr-June	37453	46242	27563	48489
Columbia River	85000	82	Apr-Sept	76843	101055	54092	103493
at The Dalles, OR 1/	72900	82	Apr-July	65758	84815	42940	88519
	58400	82	Apr-June	55016	67353	35524	71237
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	11300	72	Apr-Sept	11639	15581	4130	15950
bl. Box Canyon	10400	73	Apr-July	11095	14080	2715	14690
	8600	73	Apr-June	10217	11750	2261	11760
KETTLE RIVER SYSTEM							
Kettle River	1710	93	Apr-Sept	1259	2056	1145	1846
nr. Laurier	1660	95	Apr-July	1216	1877	1105	1754
	1490	94	Apr-June	1132	1686	1037	1588
Colville River	125	93	Apr-Sept	63	138	26	134
at Kettle Falls	115	93	Apr-July	58	125	22	123
	105	91	Apr-June	55	117	20	115

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
SPOKANE RIVER SYSTEM **							
Spokane River	2000	67	Apr-Sept	2809	2427	-	2910
at Post Falls, ID 2/	1830	67	Apr-July	2757	2330	-	2733
	1740	67	Apr-June	2678	2119	-	2600
OKANOGAN RIVER SYSTEM							
Similkameen River	1290	85	Apr-Sept	872	1505	645	1517
nr. Nighthawk	1200	85	Apr-July	812	1365	605	1417
	1025	86	Apr-June	728	1170	547	1192
Okanogan River	1450	84	Apr-Sept	909	1690	708	1719
nr. Tonasket	1320	84	Apr-July	825	1500	644	1565
	1110	85	Apr-June	730	1286	583	1305
METHOW RIVER SYSTEM							
Methow River	925	91	Apr-Sept		1174	280	1011
nr. Pateros	850	91	Apr-July		1058	246	937
	720	91	Apr-June		876	217	791
CHELAN RIVER SYSTEM							
Chelan River	1250	101	Apr-Sept	753	1335	599	1237
at Chelan 3/	1125	104	Apr-July	662	1164	481	1080
	885	106	Apr-June	553	906	403	834
Stehekin River	875	99	Apr-Sept		888	494	883
at Stehekin	760	102	Apr-July		750	382	744
	575	103	Apr-June		563	311	557
Entiat	235	98	Apr-Sept		295	95	241
nr. Ardenvoir	215	99	Apr-July		268	81	218
	180	103	Apr-June		275	70	174
WENATCHEE RIVER SYSTEM							
Wenatchee River	1165	90	Apr-Sept	893	1311	633	1297
at Plain	1070	92	Apr-July	812	1171	542	1156
	880	97	Apr-June	704	945	479	903
Wenatchee River	1590	90	Apr-Sept	1165	1755	839	1767
at Peshastin	1450	91	Apr-July	1074	1576	730	1587
	1180	94	Apr-June	938	1275	653	1250
Stemilt Basin	133	96	May-Sept	-	-	-	138*
nr. Wenatchee							
Icicle Creek	310	84	Apr-Sept	-	-	-	371
nr. Leavenworth	290	85	Apr-July	-	-	-	342
	240	86	Apr-June	-	-	-	279

* Thousands of Miners' Inches.

** Forecasts made by Jack A. Wilson, Soil Conservation Service, Boise, Idaho.

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	Seasonal Streamflow in Thousands of Acre-Feet 1979	1978	1977	15-Yr. Average 63-77
YAKIMA RIVER SYSTEM							
Yakima River	125	86	Apr-Sept	124	114	78	145
nr. Martin 4/	115	86	Apr-July	114	101	67	133
	105	92	Apr-June	101	93	67	114
Yakima River	875	90	Apr-Sept	714	808	493	975
at Cle Elum 5/	795	90	Apr-July	683	696	416	883
	675	90	Apr-June	599	614	379	751
Yakima River	2000	92	Apr-Sept	1388	1977	802	2168
nr. Parker 6/	1800	92	Apr-July	1287	1691	657	1954
	1575	93	Apr-June	1179	1487	611	1693
Kachess River	115	91	Apr-Sept	101	98	61	126
nr. Easton 7/	110	92	Apr-July	95	91	55	119
	95	91	Apr-June	88	84	53	104
Cle Elum River	450	95	Apr-Sept	348	417	250	479
nr. Roslyn 8/	410	94	Apr-July	326	372	215	435
	340	95	Apr-June	292	318	193	358
Bumping River	150	103	Apr-Sept	99	119	63	146
nr. Nile 9/	140	105	Apr-July	92	108	55	133
	110	104	Apr-June	82	93	51	106
American River	135	106	Apr-Sept		111	50	127
nr. Nile	125	108	Apr-July		93	44	116
	100	105	Apr-June		84	39	95
Tieton River	260	103	Apr-Sept	179	228	128	252
at Tieton Dam 10/	215	101	Apr-July	148	188	93	212
	170	101	Apr-June	120	148	76	168
Naches River	835	93	Apr-Sept	574	721	330	894
nr. Naches 11/	760	94	Apr-July	528	657	270	807
	650	96	Apr-June	478	564	250	680
Ahtanum Creek	50	106	Apr-Sept		48	8	47
nr. Tampico 12/	45	107	Apr-July		43	7	42
	41	111	Apr-June		37	6	37

4/ Observed flow corrected for storage in Lake Keechelus.
5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.
6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.
7/ Observed flow corrected for storage in Lake Kachess.
8/ Observed flow corrected for storage in Lake Cle Elum.
9/ Observed flow corrected for storage in Bumping Lake.
10/ Observed flow corrected for storage in Rimrock Lake.
11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.
12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek	14.74	84	Apr-Sept		12.11	4.47	17.50
at Walla Walla	14.50	84	Apr-July		11.99	4.29	17.33
	14.37	84	Apr-June		11.91	4.25	17.15
Lewis River	1250	96	Apr-Sept	974	904	1030	1301
at Ariel 13/	1060	94	Apr-July	839	610	832	1131
	815	92	Apr-June	755	515	763	995
Cowlitz River	1860	87	Apr-Sept		1635	1570	2125
bl. Mayfield Dam	1600	86	Apr-July		1348	1293	1853
	1370	88	Apr-June		1150	1168	1552
Cowlitz River	2470	89	Apr-Sept	1985	2232	2157	2767
at Castle Rock 14/	2100	87	Apr-July	1746	1835	1766	2401
	1830	90	Apr-June	1537	1581	1601	2028
OLYMPIC PENINSULA							
DUNGENESS RIVER SYSTEM							
Dungeness River	140	88	Apr-Sept		152	97	160
nr. Sequim	115	90	Apr-July		115	75	130
	85	88	Apr-June		83	61	96
PUGET SOUND							
SKAGIT RIVER SYSTEM							
Skagit River	1840	83	Apr-Sept	1523	1903	643	2212
at Newhalem 15/	2000	85	Apr-Sept	1648	2115	728	2356
	1650	84	Apr-July	1359	1690	535	1972
	1175	79	Apr-June	1102	1285	429	1485
GREEN RIVER SYSTEM							
Green River							
bl. Howard Hanson Dam 16/	275	78	Apr-Sept	228	199	222	316
CEDAR RIVER SYSTEM							
Cedar River	70	76	Apr-Sept		59	55	93
nr. Cedar Falls							
ELWHA RIVER SYSTEM							
Elwha River	420	76	Apr-Sept		458	370	553
nr. Port Angeles	330	73	Apr-July		351	295	454

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about April 1, 1980, as percent of the same date in 1979 and 1978 and average of record.

Tributary Basin	No. of Courses Average	1980 Snow Water Expressed as percent of 1979	1978	1963-77 Avg.
UPPER COLUMBIA BASIN				
Pend Oreille	16	103	113	83
Kettle	16	208	93	92
Colville	4	98	118	93
Spokane	15	74	89	63
Sanpoil	1	133	94	76
Okanogan	36	154	90	83
Methow	6	362	84	78
Chelan	4	100	82	81
Entiat	9	124	75	78
Wenatchee	10	103	99	84
Yakima	23	154	126	103
Ahtanum	2	180	160	126
LOWER COLUMBIA				
Asotin	1	95	118	83
Mill Creek	2	94	369	95
Klickitat	1	300	-	69
Cowlitz	1	134	135	90
PUGET SOUND				
White	2	118	108	82
Green	8	94	166	71
Cedar	7	125	402	58
Snoqualmie	3	91	168	68
Skykomish	3	101	126	76
Skagit	16	96	114	64
Baker	8	-	89	61
Nooksack	5	102	151	71
OLYMPIC PENINSULA				
Morse	1	93	102	64
Elwha	1	61	90	40
Dungeness	1	77	135	69

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured April 1 1980	1979	1978	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	87.1	152.1	277.8	121.6
Columbia	Franklin D. Roosevelt Lake	5232.0	1374.8	1879.4	1842.8	1260.0
Columbia	Banks Lake	714.9	688.2	650.7	682.9	590.8
Okanogan	Conconully Reservoir	13.0	4.0	10.6	4.2	7.2
Okanogan	Salmon Lake	10.5	8.3	10.5	6.2	7.5
Chelan	Lake Chelan	676.1	92.0	131.6	156.0	184.6
		YAKIMA				
Yakima	Keechelus Lake	157.8	94.4	101.9	158.0	108.8
Kachess	Kachess Lake	239.0	92.2	207.9	215.9	189.8
Cle Elum	Lake Cle Elum	436.9	363.4	128.4	315.0	292.1
Bumping	Bumping Lake	33.7	27.4	11.5	24.4	8.6
Tieton	Rimrock Lake	198.0	96.5	154.4	169.3	142.2
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	511.3	688.3	729.5	754.4
Skagit	Diablo Reservoir	90.6	87.1	88.4	86.8	85.7
Skagit	Gorge Reservoir	9.8	7.8	8.0	8.3	8.0

1/ Based on Active Storage

* 15-yr. Average 1963-1977

SOIL MOISTURE - APRIL, 1980

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of April 1 1980	1979	1978
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	Late	-	5.1
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	10.3	9.5	9.0
Helmers	17C2M	4400	48	12.0	8.9	9.7	9.5
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	12.8	12.5	7.1

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1979	1978	1977
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	3.1	3.7	3.2
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.7	5.9	-
Helmers	17C2M	4400	48	12.0	8.1	8.2	-
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.1	10.3	6.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct Observed	1979 2/ Departure	WINTER Nov 1979 - Jan 1980 Observed	2/ Departure
Columbia in Canada	4.44	-0.58	13.78	-1.73
Pend Oreille - Spokane	3.23	-0.81	13.28	-4.27
Northeastern Washington	2.53	+0.05	9.70	+0.30
Southeastern Washington	2.53	+0.02	10.79	+0.36
Central Washington	1.55	+0.58	6.84	+1.56
North Central Washington	2.22	+0.63	6.05	-0.49
Northwest Slope Cascades	10.68	-2.53	51.07	-4.32
Southwest Slope Cascades	9.66	+0.98	35.13	-6.51

Northeastern Washington - Lower Spokane, Colville, Sanpoil, and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon, and Palouse Drainages.

Central Washington - Yakima, Wenatchee, and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

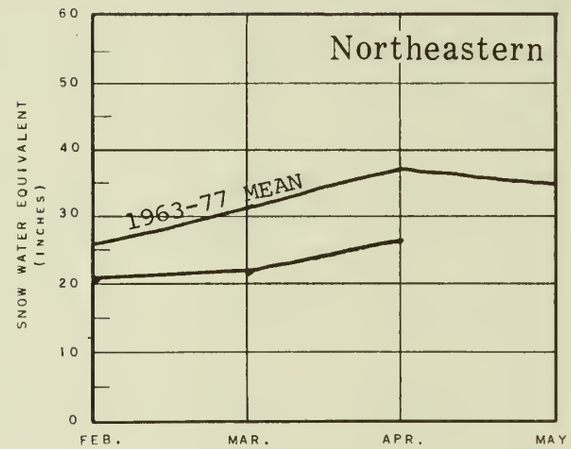
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

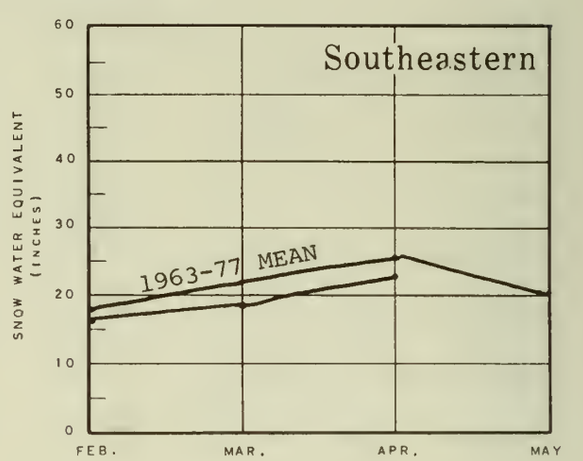
2/ - Departure from 15-year (1958-72) drainage division average.

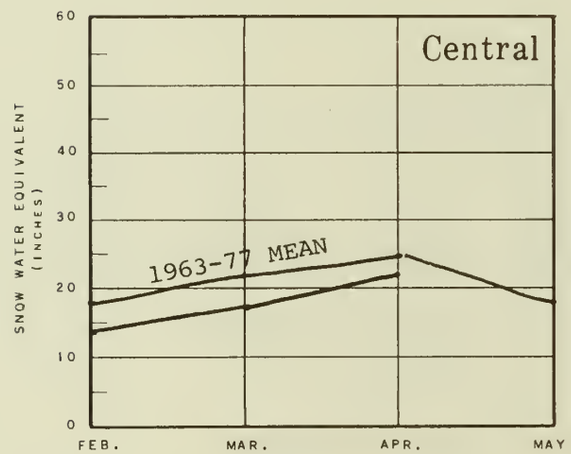
WASHINGTON SNOW COVER

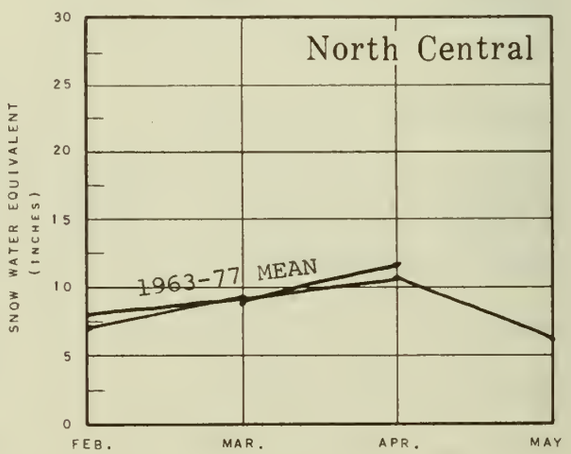
1980

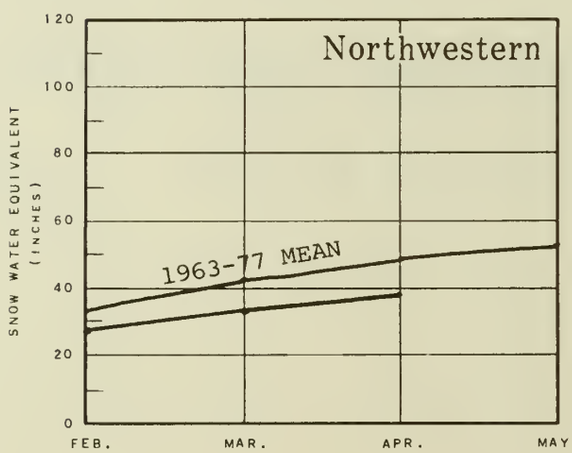
DRAINAGE AREAS

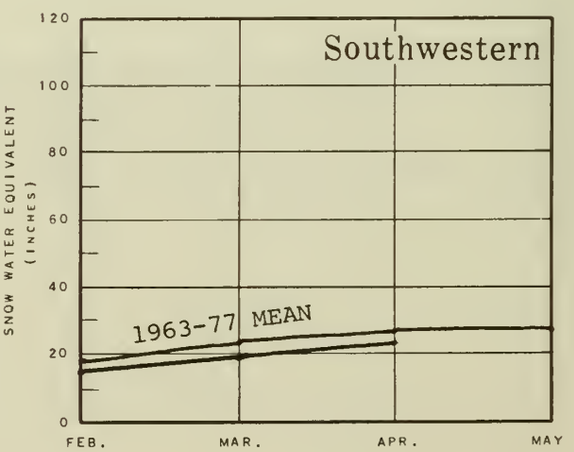












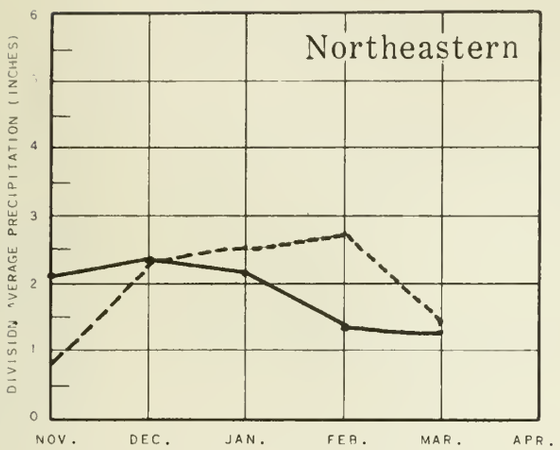
Selected Snow Survey Courses by Soil Conservation Service

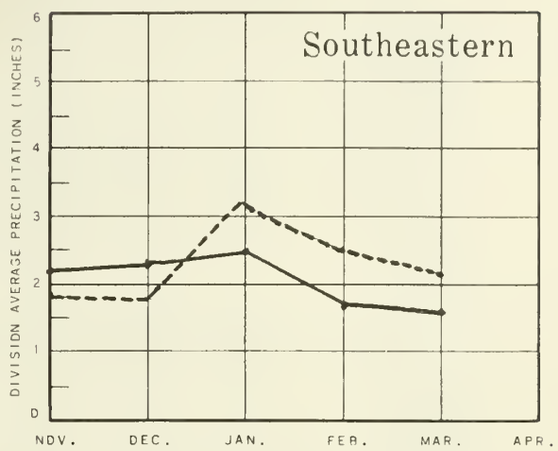
M7-L-22028G

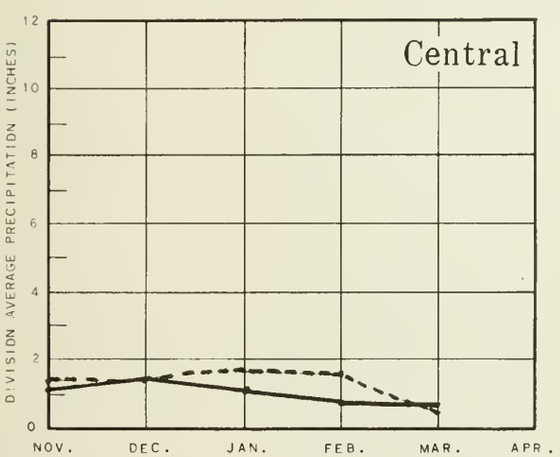
WASHINGTON VALLEY PRECIPITATION

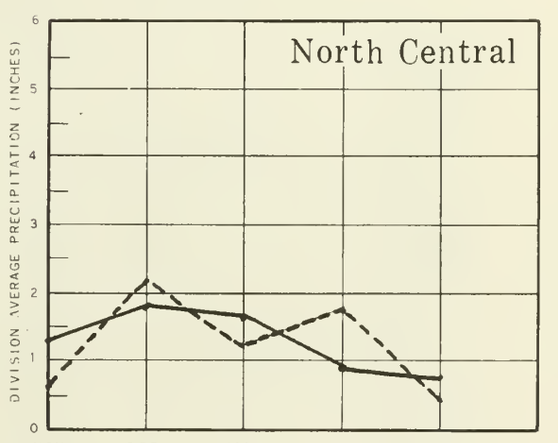
1980

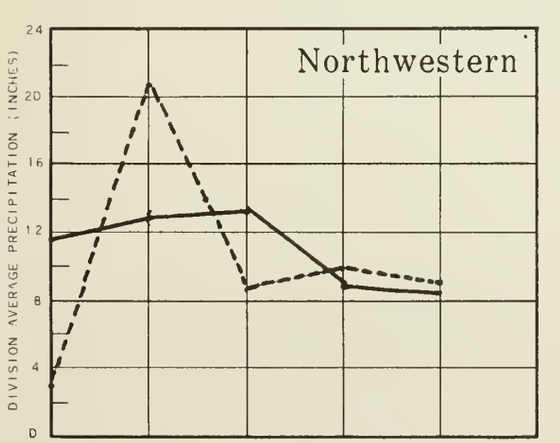
DRAINAGE AREAS

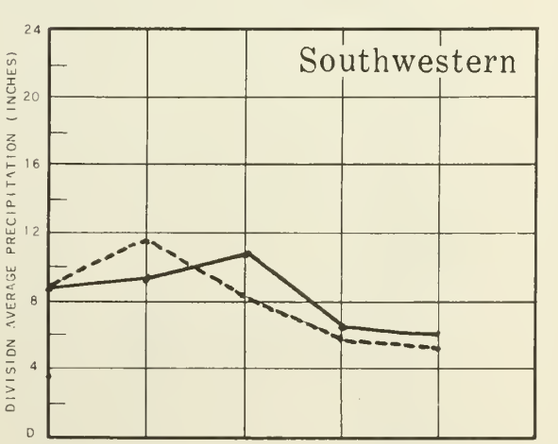










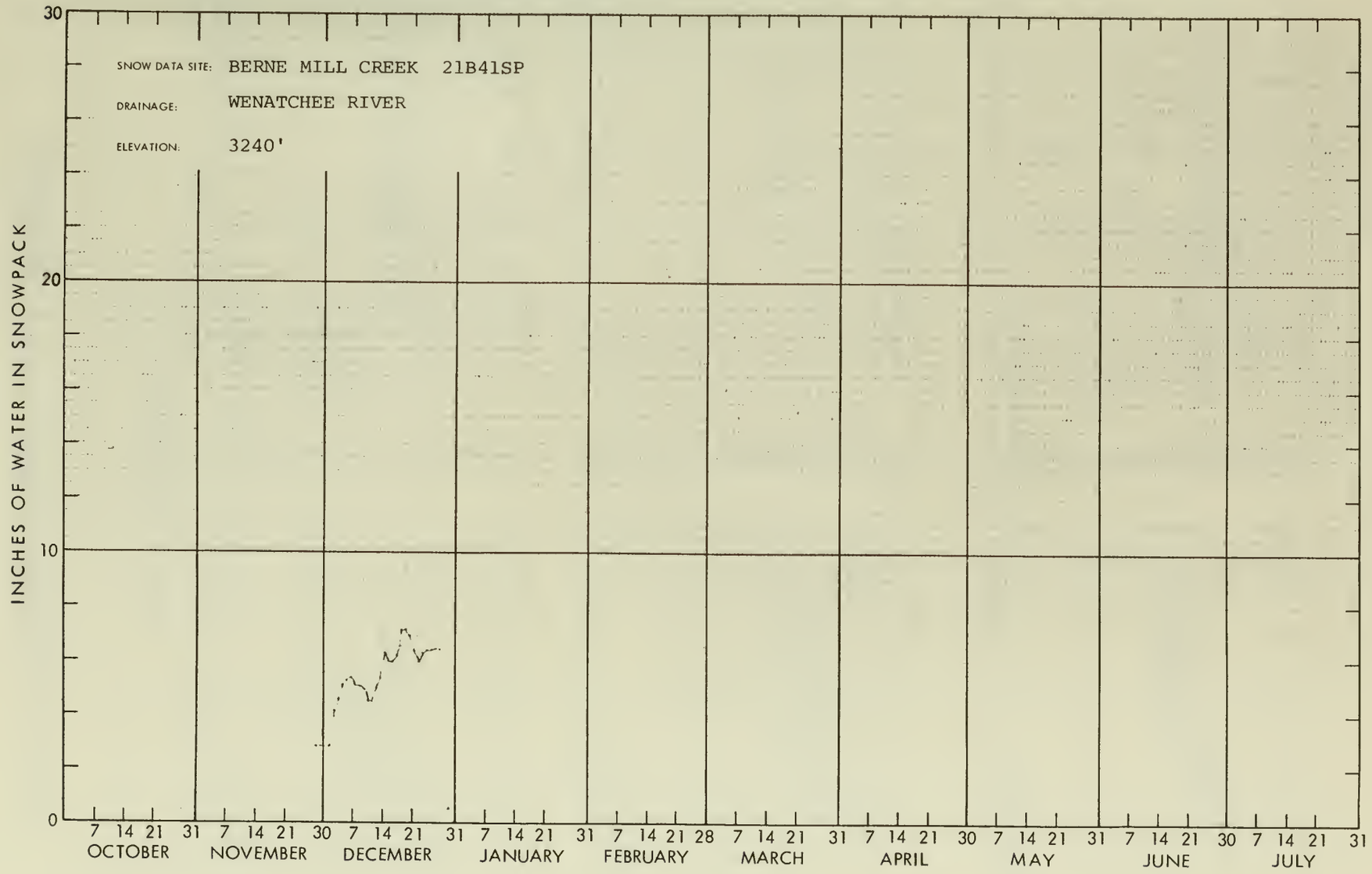


Average: ——
1980 : - - - - -

Preliminary Analysis by National Weather Service

M7-L-22028H

WSFB-X138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7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
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JANUARY
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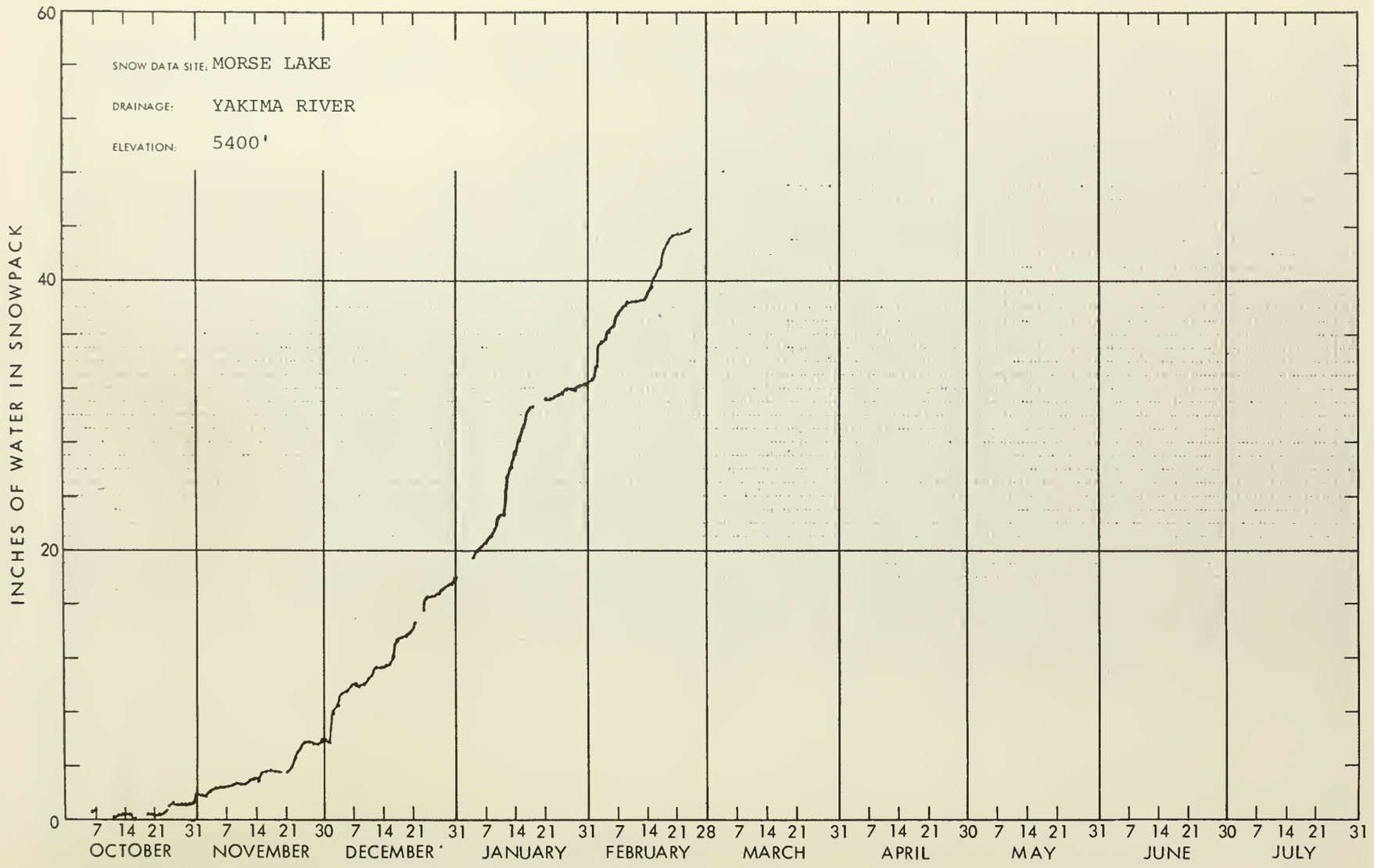
MARCH
APRIL
MAY
JUNE
JULY

WSFB-X13C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0
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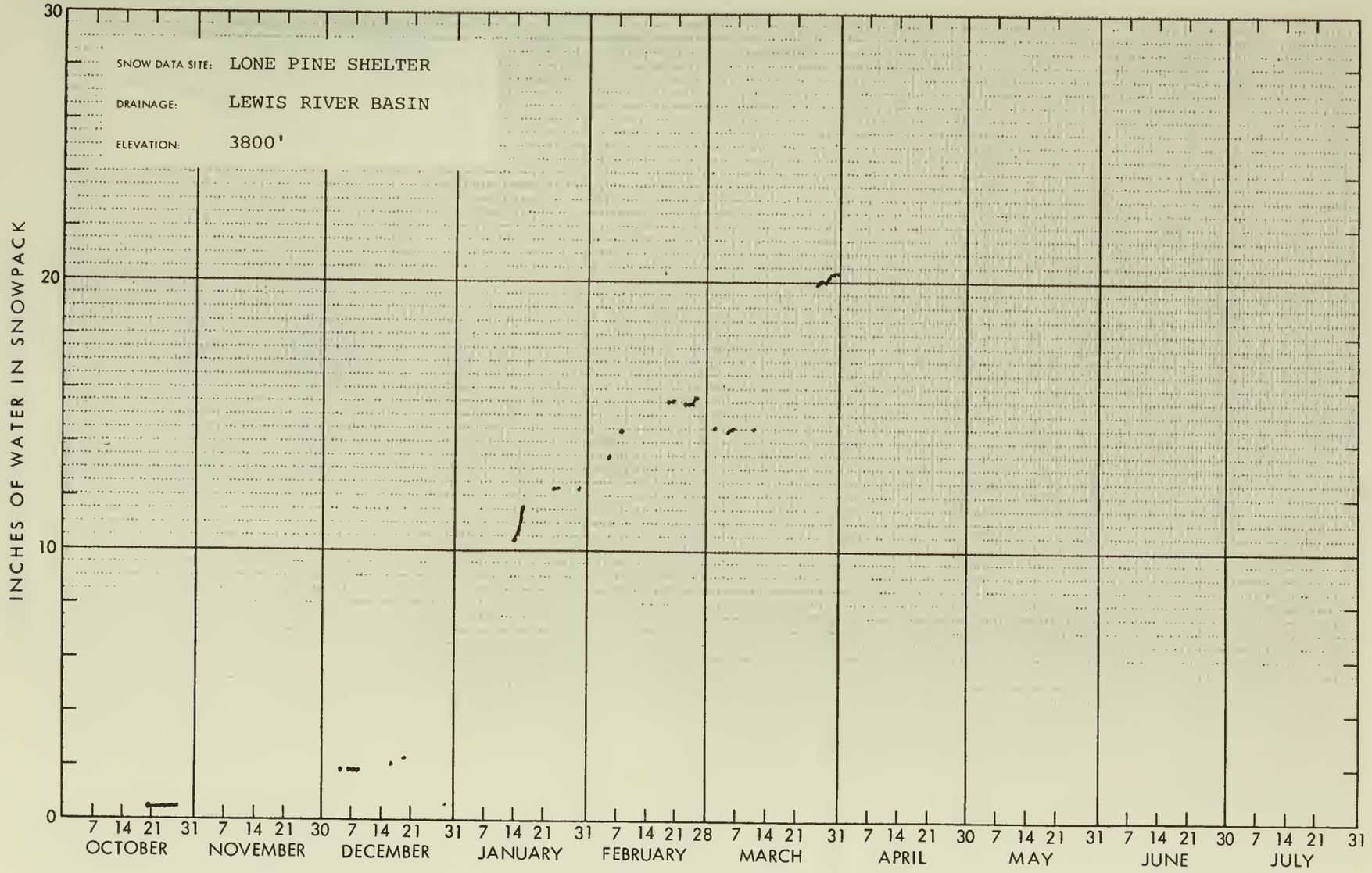
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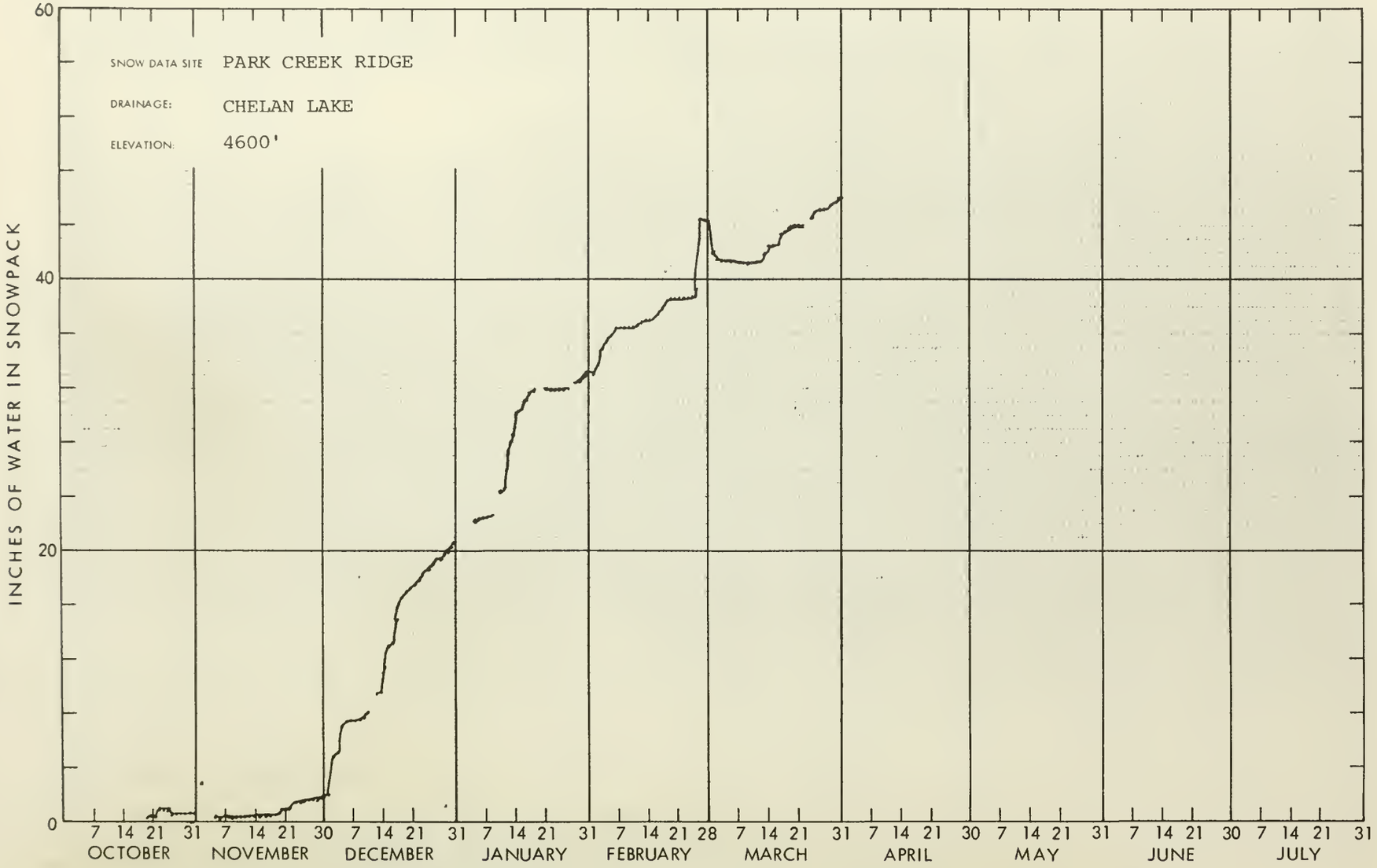
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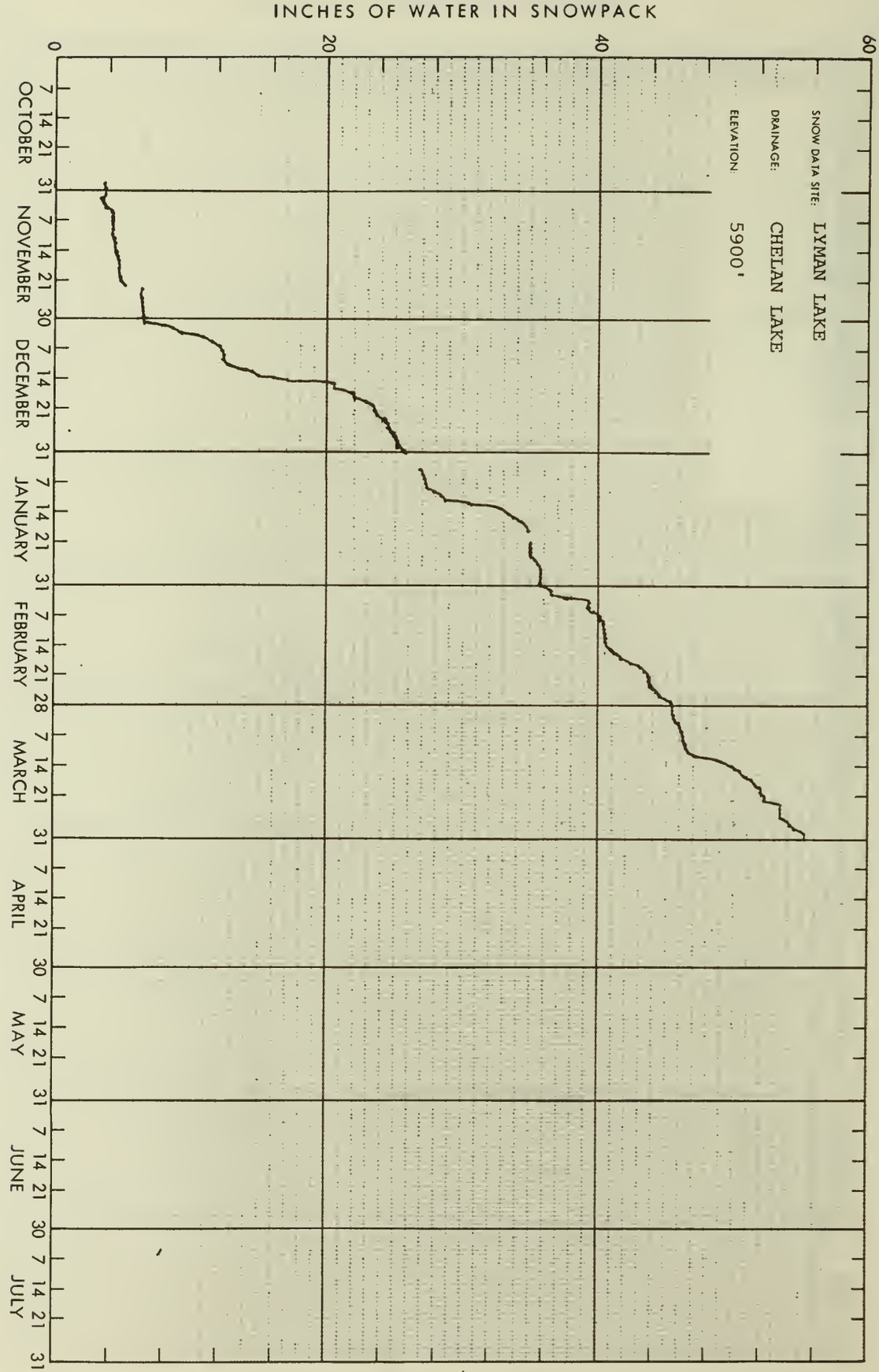
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH APRIL MAY JUNE JULY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DRAINAGE: CHELAN LAKE
ELEVATION: 5900'
OCTOBER 7 14 21 31
NOVEMBER 7 14 21 30
DECEMBER 7 14 21 31
JANUARY 7 14 21 31
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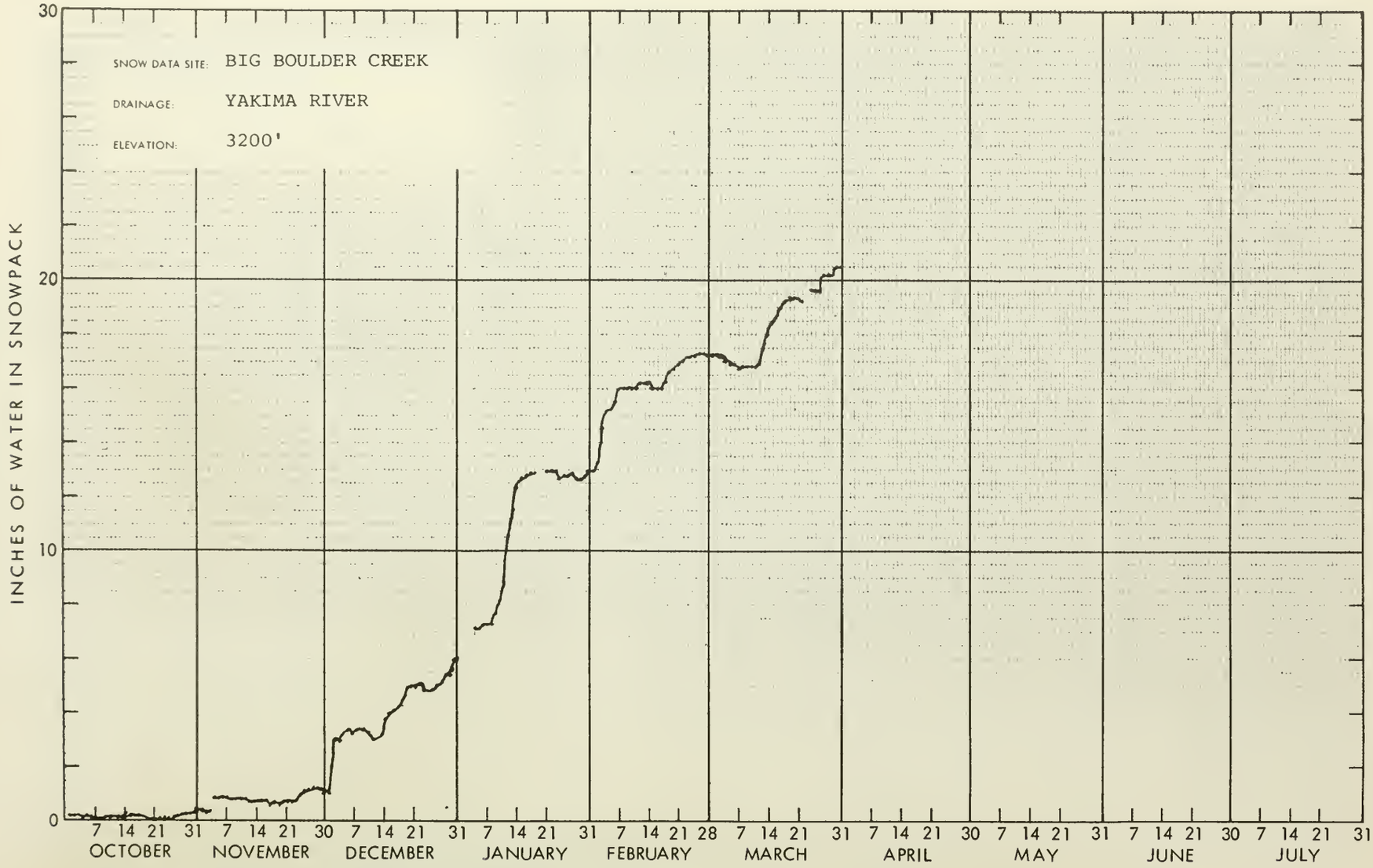
SNOW DATA SITE: BIG BOULDER CREEK
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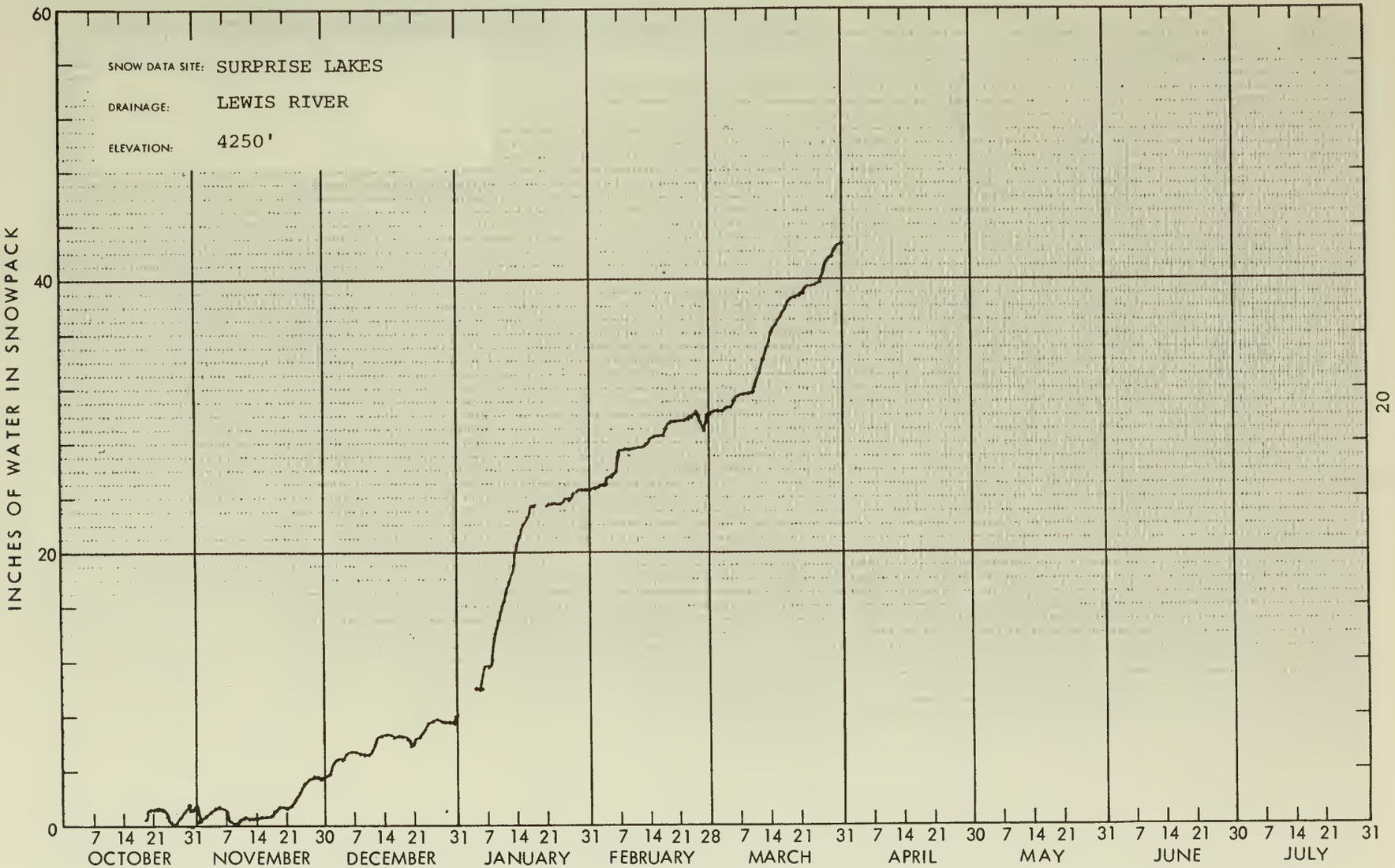
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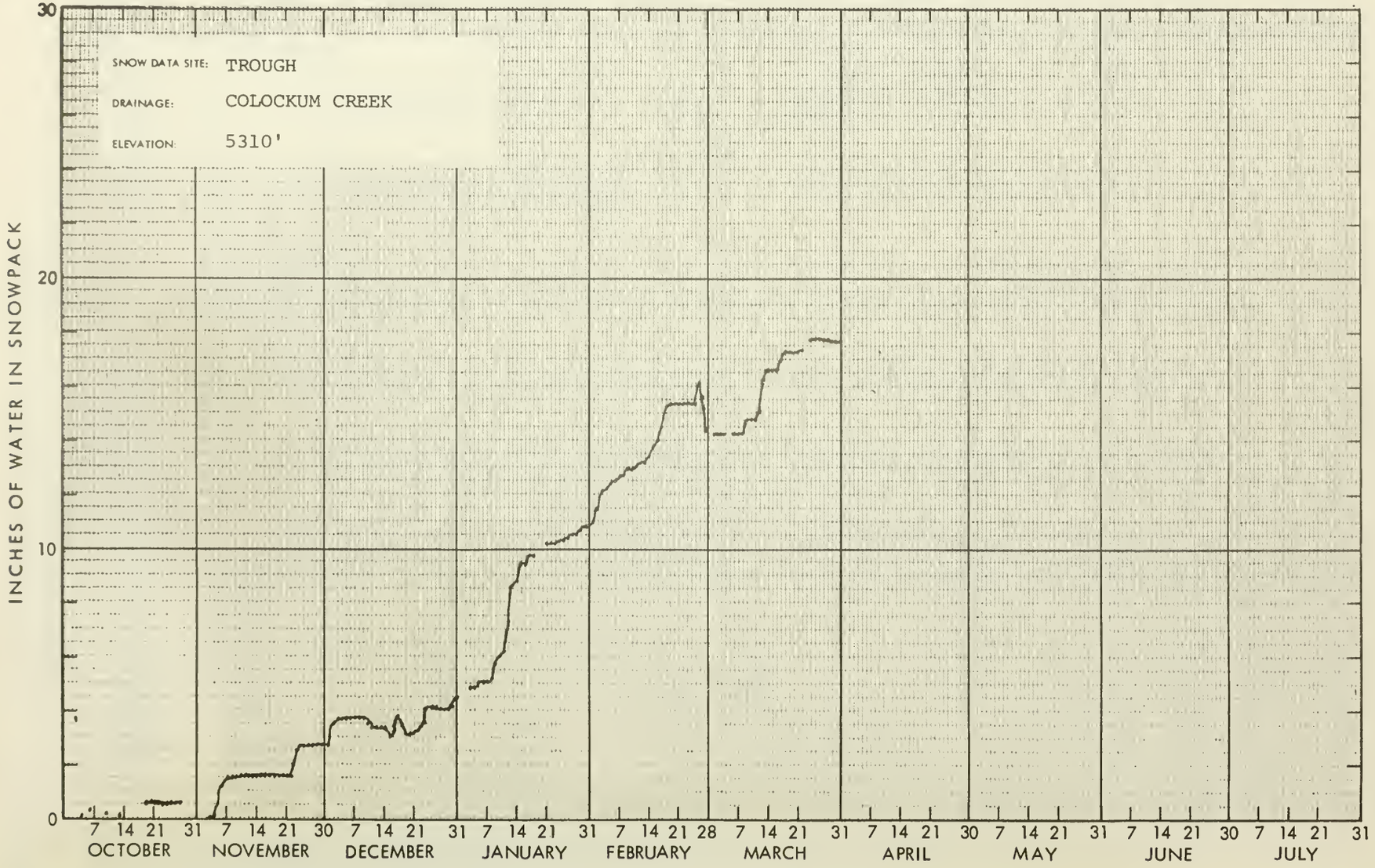
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DRAINAGE: COLOCKUM CREEK
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INCHES OF WATER IN SNOWPACK
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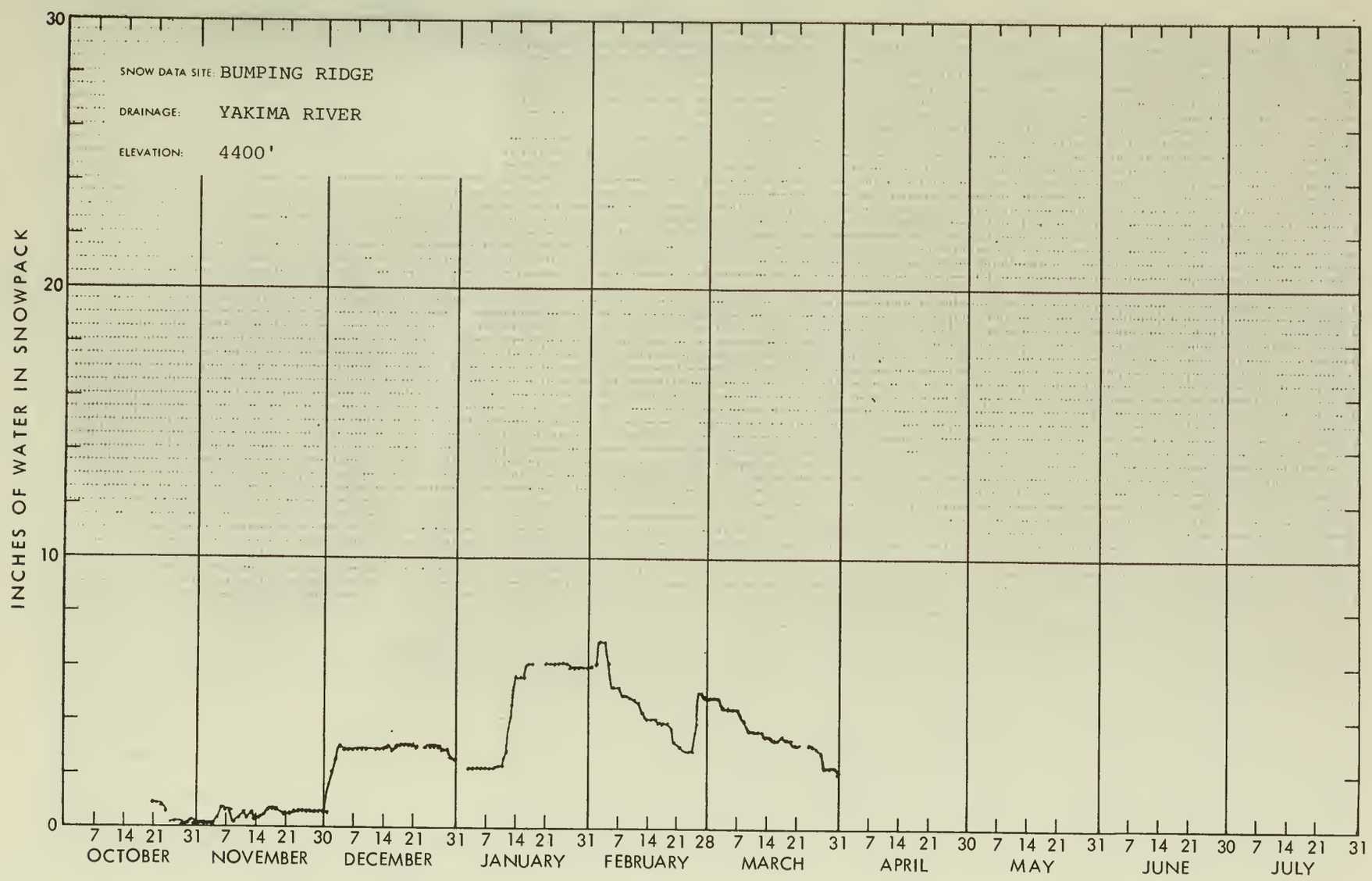
SNOW DATA SITE: BUMPING RIDGE
DRAINAGE: YAKIMA RIVER
ELEVATION: 4400'
INCHES OF WATER IN SNOWPACK
30
20
10
0
7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
MARCH
APRIL
MAY
JUNE
JULY

SNOW DATA TO APRIL 1, 1980 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches) Last Year	Water Content (Inches) Average #
UPPER COLUMBIA DRAINAGE							
PEND OREILLE RIVER							
Baree Creek	15B11	5500	3/31	97	37.5	41.9	50.3
Baree Midway	15B16	4600	4/1	87	32.4	35.7	38.8
Baree Trail	15B15	3800	4/1	26	7.8	7.9	9.8
Benton Meadow	16A02	2344	3/27	11	4.6	5.0	5.0
Benton Spring	16A03	4900	3/27	48	15.9	16.6	20.2
Boyer Mountain	17A02	5250	3/27	62	21.5	20.4	27.2
Brush Creek Timber	14A13	5000	4/2	32	8.2	10.5	10.6
Bunchgrass Meadow	17A01	5000	3/28	78	28.6	22.6	30.7
Chewelah	17A04	4923	3/29	44	13.3	17.8	17.0
Heart Lake Trail	14C10	4800	3/31	57	18.4	25.4	23.8
Hoodoo Basin	15C10	6000	3/31	120	47.2	46.1	53.6
Hoodoo Creek	15C01	5900	3/31	111	42.8	45.1	49.9
Lookout	15B02	5250	3/12	81	24.8	28.8	38.6
			3/31	82	26.4	32.4	37.1
Mosquito Ridge	16A04A	5100	3/28	79	28.2	31.0	40.2
Nelson	19-Can	3050	3/27	44	15.3	14.2	15.6*
Schweitzer Bowl	16A06	4500	3/26	65	25.1	22.7	30.9
Schweitzer Ridge	16A05	6100	3/26	123	52.4	32.0	47.8
Smith Creek	16A01	4800	3/26	105	39.6	31.4	48.8
Winchester Creek	17A03	2970	3/27	30	8.7	7.2	11.2
KETTLE RIVER							
Barnes Creek	90-Can	5300	3/27	55	15.0	18.3	21.0*
Big White Mtn.	154-Can	5500	4/1	59	17.0	15.9	20.5*
Bluejoint Mtn.	244-Can	7500	3/27	76	25.3	19.3	20.8*
Boulder Road	18A02	1450	3/24	Trace	0.0	0.0	2.4
Butte Creek	18A03	4070	3/24	32	9.4	5.7	9.5
Cabin Creek	18A08	3170	3/24	22	7.7	4.8	8.3
Carmi	126-Can	4100	4/1	19	4.7	4.4	6.6*
Farron # 1	17-Can	4000	3/31	41	14.2	8.7	13.3*
Farron # 2	243-Can	4000	3/31	45	15.0	9.0	12.8*
Goat Creek	18A04	3595	3/24	18	6.5	0.8	5.3
Graystoke Lake	5-Can	5950	3/28	43	10.9	12.8	20.4*
Monashee Pass	48A-Can	4500	3/27	34	9.6	12.7	14.1*
Old Glory Mountain	42-Can	7000	3/29	87	27.6	17.2	28.5*
Snow Caps Creek	18A05	2150	3/24	Trace	0.0	0.0	2.2
Snow Caps Trail	18A06	2720	3/24	15	5.4	1.0	4.9
Summit G.S.	18A07	4600	3/24	24	7.4	4.7	8.5
Trapping Creek Lower	166-Can	3050	4/1	10	2.9	0.9	3.7*
Trapping Creek Upper	165-Can	4450	4/1	31	8.7	9.3	10.1*

\# Average based on 1963-77 average
* Average for years of record

USDA SCS-PORTLAND OREGON 1973

SNOW DATA TO APRIL 1, 1980 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average + #
COLVILLE RIVER							
Baird	17A06	3215	3/29	19	6.0	6.5	5.6
Carlson	18A09	2885	3/29	Trace	0.0	0.0	2.6
Chewelah	17A04	4925	3/29	44	13.3	17.8	17.0
Stranger Mountain	17A05	4990	3/29	42	12.6	11.6	14.5
Togo	18A10	3370	3/29	41	12.8	10.9	12.9
SPOKANE RIVER							
Above Burke	15B08	6100	3/31	52	17.4	22.1	24.7
Above Roland	15B07	4350	3/28	71	25.4	32.6	35.2
Below Roland	15B06	3770	3/28	31	12.4	17.8	16.5
Copper Ridge	16B02	4800	3/28	36	10.2	26.8	29.7
Forty-nine Meadows	15B03	5000	3/28	66	19.7	24.7	32.5
Fourth of July Summit	16B03	3100	3/13	12	3.2	11.6	
			3/26	11	3.9	8.5	8.8
Granite Peak	15B13A	6000	3/28	111	33.8	36.5	46.8
Kellogg Peak	16B05A	5560	3/28	75	25.0	27.8	35.4
Lookout	15B02	5250	3/12	81	24.8	28.8	38.6
			3/31	82	26.4	32.4	37.1
Lost Lake	15B14A	6000	3/28	127	40.3	40.5	61.8
Lower Sands Creek	16B01	3400	3/28	37	11.5	19.2	21.9
Mosquito Ridge	16A04A	5110	3/28	79	28.2	31.0	40.2
Roland Summit	15B05A	5200	3/28	83	30.2	37.4	40.1
Sherwin	16C01	3200	3/27	22	6.7	14.0	13.8
Sunset	15B09A	5600	3/28	68	22.0	32.0	36.2
SANPOIL RIVER							
Sherman Creek Pass	18A01	5350	3/31	42	11.4	8.6	15.0
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	3/31	19	5.8	6.5	6.2*
Blackwall Mountain	100-Can	6250		Late Report		24.4	34.4*
Bouleau Lake	234-Can	4580	3/30	41	11.0	11.2	14.6*
Brenda Mine	193-Can	4800	3/28	40	11.9	9.6	13.8*
Brookmere	27-Can	3200	3/28	25	8.5	6.5	9.6*
Clark +	19A08a	7000	4/1	Not Measured			25.6
Enderby	130-Can	6250	3/31	102	34.0	24.0	38.8*
Esperon Creek Lower	164-Can	4400	3/31	31	8.5	7.9	12.4*
Esperon Creek Middle	163-Can	4700	3/31	41	12.0	11.7	16.1*
Esperon Creek Upper	162-Can	5400	3/31	47	13.9	13.2	19.7*
Freezeout Mdw New	20A38	5000	3/27	72	23.7	28.0	41.0
Graystoke Lake	5-Can	5950	3/28	43	10.9	12.8	20.4*
Hamilton Hill	107-Can	4900	3/29	45	15.0	10.7	15.6*

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND OREGON 1973.

SNOW DATA TO APRIL 1, 1980 - APPENDIX 3

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR: Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD: Water Content (Inches) Last Year	Average #
OKANOGAN RIVER (Cont.)							
Harts Pass	20A05A	6500	3/28	109	39.6	31.9	48.5
Horseshoe Basin +	19A05a	7000	4/1	Not Measured		14.4	19.4
Isintok Lake	152-Can	5510	3/29	27	6.7	5.3	8.3*
Lost Horse Mountain	105-Can	6300	4/1	37	10.0	8.1	9.3*
Loup Loup	19A07	4650	3/27	35	11.4	1.7	9.2
McCulloch	4-Can	4200	3/31	22	5.7	6.5	6.7*
Missezula Mountain	106-Can	5100	3/28	34	9.8	6.7	8.9*
Mission Creek	5A-Can	6000	3/28	55	15.2	15.8	20.2*
Monashee Pass	48A-Can	4500	3/27	34	9.6	12.7	14.1*
Mount Kobau	156-Can	5950	3/31	39	11.3	4.1	13.0*
Muckamuck +	19A09a	6390	3/31	50	15.5	9.6	17.9
Mutton Creek No. 1	19A01	5700	3/27	34	10.6	3.2	14.7
Mutton Creek No. 2SP	19A11SP	6000	3/27	-	8.4	2.4	13.0
New Copper Mountain	46A-Can	4300	3/30	21	6.3	3.5	5.0*
New Penticton Res. #2	183-Can	5225	3/31	34	8.1	6.3	9.4*
Nickel Plate Mtn.	47-Can	6200	3/30	32	8.7	6.5	8.2*
Oyama Lake	203-Can	4400	3/30	18	5.2	5.4	7.5*
Paysayten +	20A28a	4300	3/31	54	16.7	-	18.7
Postill Lake	55-Can	4500	3/31	27	7.2	8.3	9.1*
Quartette Lake	34-Can	4000	3/27	34	10.6	10.8	14.4*
Rusty Creek	19A03	4000	3/27	22	6.0	1.0	6.6
Salmon Meadows	19A02	4500	3/27	39	11.7	2.9	10.3
Silver Star Mountain	99-Can	6050	3/28	74	23.8	19.1	28.4*
Starvation Mtn +	19A10a	6750	3/31	58	18.0	18.0	20.7
Summerland Reservoir	3A-Can	4200	3/30	28	8.7	7.5	9.3*
Touts Coulee	19A06	2845	3/28	2.5	0.8	0.0	1.8
Trout Creek	3-Can	4700	3/27	22	6.3	6.0	7.6*
Vaseux Creek	233-Can	4600	3/30	24	5.3	3.5	6.8*
White Rocks Mountain	70-Can	6000	3/28	56	18.3	17.7	23.7*
METHOW RIVER							
Billy Goat Pass +	20A10a	6409	3/31	58	18.0	-	38.0
Harts Pass	20A05A	6500	3/28	109	39.6	31.9	48.5
Horseshoe Basin +	19A05a	7000	4/1	Not Measured		14.4	19.4
Loup Loup	19A07	4650	3/27	35	11.4	1.7	9.2
Mutton Creek No. 1	19A01	5700	3/27	34	10.6	3.2	14.7
Mutton Creek No. 2SP	19A11SP	6000	3/27	-	8.4	2.4	13.0
Rusty Creek	19A03	4000	3/27	22	6.0	1.0	6.6
Salmon Meadows	19A02	4500	3/27	39	11.7	2.9	10.3
CHELAN LAKE BASIN							
Cloudy Pass +	20A22a	6500	4/1	Marker down		38.7	49.8
Little Meadows +	20A24a	5275	4/2	114	42.6	39.6	49.0
Lyman Lake	20A23A	5900	4/2	132	49.5	43.8	65.5
Park Creek Ridge	20A12A	4600	4/2	99	40.2	66.7	47.0
Rainy Pass	20A09	4780	3/28	91	33.0	28.0	43.7

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA-SCS-PORTLAND OREGON 1973-

SNOW DATA TO APRIL 1, 1980 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average#
ENTIAT RIVER							
Blue Creek G.S.	20B28a	5425	4/1	Not Measured		27.4	43.5
Brief	20B19	1600	3/24	10	3.5	0.0	4.6
Entiat Meadows +	20A33a	4540	3/28	60	21.0	25.1	49.3
Entiat River Trail +	20A34a	3325	3/28	46	16.6	13.9	18.2
Four Mile Ridge +	20B27a	6800	3/28	84	29.4	22.8	37.8
Fox Camp +	20A36a	6510	4/1	Not Measured		-	57.8
Pope Ridge	20B20	3540	3/31	47	16.9	14.2	18.9
Pugh Ridge +	20A32a	6725	3/28	97	34.0	23.2	37.5
Shady Pass	20A37	6200	3/27	71	24.5	19.4	32.9
Snow Brushy +	20A35a	3910	3/28	91	32.8	27.5	40.3
Tommy Creek +	20B21a	4900	3/28	64	22.4	14.8	27.3
WENATCHEE RIVER							
Berne-Mill Creek	21B23	2925	3/13	72	23.3	27.3	26.1
			3/27	66	26.2	24.7	29.8
Berne-Mill Creek New SP	21B41	3240	3/27	59	25.0	21.5	28.3
Blewett Pass No. 2	20B02	4270	3/25	38	14.4	13.9	16.9
Chiwaukum G.S.	20B16	1810	3/14	32	10.3	11.9	11.3
			3/28	25	10.1	8.1	10.2
Fish Lake	21B04	3371	3/26	71	30.5	26.6	35.3
Lake Wenatchee	20B05	1970	3/14	34	10.8	15.9	15.4
			3/28	26	10.6	13.0	12.9
Leavenworth R.S.	20B17	1127	3/13	3.4	1.4	5.2	2.2
			3/27	0	0.0	0.0	0.6
Lyman Lake	20A23A	5900	4/2	132	49.5	-	65.5
Merritt	20B18	2140	3/13	36	12.0	19.0	16.0
			3/27	26	11.9	16.7	15.5
Stevens Pass	21B01	4070	3/13	115	39.7	40.6	52.3
			3/27	116	45.5	40.9	54.9
Stevens Pass Sand Shed	21B45	3700	3/13	81	27.2	31.3	37.5
			3/27	79	29.8	30.4	39.5
SQUILCHUCK CREEK							
Beehive Springs	20B03	4400	3/26	28	10.6	7.4	7.9
Scout-A-Vista	20B04	3400	3/26	29	10.7	5.3	7.3
STEMILT CREEK							
Jump-Off	20B08	4450	3/27	30	10.6	9.0	8.2
Stemilt Slide	20B06	5000	3/26	38	13.3	11.1	13.7
Upper Wheeler	20B07	4400	3/26	26	9.9	6.9	8.7
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	3/27	33	12.4	9.3	15.1
Colockum Creek Lower	20B23	4300	3/27	31	11.8	8.8	9.9
Trough # 2	20B25SP	5310	3/27	51	19.0	10.5	New

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS-PORTLAND OREGON 1973

SNOW DATA TO APRIL 1, 1980 - APPENDIX 5

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
YAKIMA RIVER							
Ahtanum R.S.	21C11	3100	3/27	26	10.0	4.2	6.0
Big Boulder Creek	21B09	3200	3/26	41	13.7	13.1	20.1
Blewett Pass No. 2	20B02	4270	3/25	38	14.4	13.9	16.9
Bumping Lake	21C08	3450	3/13	52	17.9	11.2	17.1
			3/28	46	18.3	9.5	16.5
Bumping Lake New	21C36	3400	3/13	60	19.7	14.6	22.0
			3/28	53	21.2	13.1	21.7
Cayuse Pass	21C06	5300		Late Report		63.5	90.3
Colockum Pass	20B09	5370	3/25	48	17.3	10.2	16.6
Cooke Creek	20B10	4123	3/25	13	4.8	0.0	5.1
Corral Pass	21B13	6000	4/4	85	31.8	31.8	43.4
Fish Lake	21B04	3371	3/26	71	30.5	26.6	35.3
Green Lake	21C10	6000	3/27	80	30.1	24.5	34.9
Grouse Camp	20B11	5385	3/26	53	20.8	14.1	16.6
High Creek	20B12	2930	3/26	18	6.9	0.0	3.6
Joe Lake +	21B46a	4624	3/25	153	55.4	-	70.6
Lake Cle Elum	21B14M	2200	3/14	19	6.2	8.9	10.0
			3/31	7	2.7	4.8	6.7
Lemah Creek +	21B47a	3327	3/25	90	32.6	-	46.6
Manashtash	20C01	3935	3/26	19	6.9	0.0	3.0
Morse Lake	21C17	5400	3/27	131	54.0	39.7	59.6
Nanum	21B39	2340	3/26	25	8.8	5.8	8.2
Olallie Meadows	21B02	3625	4/3	89	36.6	39.0	51.9
Satus Pass	20D01	4030	3/31	17	6.6	2.2	9.6
Stampede Pass SP	21B10	3860	3/17	98	35.7	39.6	41.5
			3/31	112	44.9	41.3	43.9
Trail Creek	20B14	3360	3/25	Trace	0.0	0.0	0.0
Tunnel Avenue	21B08	2450	3/11	46	18.1	19.2	25.9
			3/31	50	21.7	18.0	24.6
Van Epps Pass +	20B26a	5925	3/25	110	39.8	-	57.5
Walters Flat	20B15	3360	3/26	25	9.3	4.2	5.5
Waptus Lake +	21B49a	3024	3/25	60	21.7	-	44.5
White Pass (E. Side)	21C28	4500	3/12	61	21.9	20.1	25.1
			3/26	69	23.5	17.5	26.0
AHTANUM CREEK							
Ahtanum R.S.	21C11	3100	3/27	26	10.0	4.2	6.0
Green Lake	21C10	6000	3/27	80	30.1	24.5	34.9
LOWER COLUMBIA DRAINAGE							
ASOTIN CREEK							
Spruce Springs	17C04	5700	3/24	62	21.8	22.9	26.4
MILL CREEK							
Homestead	17C01	4030	3/26	24	9.1	9.1	8.9
Martin Springs	17C02	4400	3/26	41	12.9	14.9	14.9
Tollgate	18D3M	5070	3/28	66	22.7	30.5	26.6

\# Average based on 1963-77 average

\+ Snow water equivalent estimated from aerial stadia observation

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SNOW DATA TO APRIL 1, 1980 - APPENDIX 6

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
KLICKITAT RIVER							
Satus Pass	20D01	4030	3/31	17	6.6	2.2	9.6
COWLITZ RIVER							
Cayuse Pass	21C06	5300		Late Report		63.5	90.3
White Pass (E. Side)	21C28	4500	3/12	61	21.9	20.1	25.1
			3/26	69	23.5	17.5	26.0
PUGET SOUND DRAINAGE							
WHITE RIVER							
Cayuse Pass	21C06	5300		Late Report		63.5	90.3
Corral Pass	21B13	6000	4/4	85	31.8	31.8	43.4
Morse Lake	21C17	5400	3/27	131	54.0	39.7	59.6
GREEN RIVER							
Airstrip	21B24	1800	4/1	0	0.0	0.0	2.1
Charley Creek	21B25	1200	4/1	0	0.0	0.0	0.0
Cougar Mountain SP	21B42SP	3200	4/4	32	14.3	15.6	25.1
Grass Mtn. No. 2	21B27	2900	4/1	36	13.3	11.4	24.3
Grass Mtn. No. 3	21B28	2100	4/1	Trace	0.0	0.0	4.9
Lester Creek	21B29	3100	4/1	57	21.9	23.4	27.5
Lynn Lake	21B50	4000	4/1	41	15.8	21.8	29.8
Sawmill Ridge	21B31	4700	4/1	80	27.6	32.6	41.6
Snowshoe Butte SP	21B43SP	5000	4/4	123	48.5	45.8	59.8
Stampede Pass SP	21B10	3860	3/17	98	35.7	39.6	41.5
			3/31	112	44.9	41.3	43.9
Twin Camp	21B30	4100	4/1	59	21.8	27.2	27.8
CEDAR RIVER							
City Cabin	21B03	2390	3/26	25	9.4	7.0	20.0
Mt. Gardner	21B21	3300	3/26	27	10.2	6.5	19.8
Mt. Lindsay	21B16	2500	3/27	34	11.4	11.9	18.2
Mt. Washington New	21B15	3000	3/28	16	6.0	0.0	10.8
Rex River	21B17	2400	3/27	34	12.2	12.1	17.8
S. F. Cedar	21B06	3000	3/27	30	11.3	9.8	23.2
Tinkham Creek	21B20	3400	3/26	47	18.9	12.7	27.9
SNOQUALMIE RIVER							
Alpine Meadow	21B48	3500	3/28	96	33.9	40.2	55.2
Lake Elizabeth	21B19	2900	3/28	92	36.1	37.9	50.7
Olallie Meadows	21B02	3625	4/3	89	36.6	39.0	51.9
S. F. Tolt	21B18	1900	3/31	Trace	0.0	0.0	1.5
SKYKOMISH RIVER							
Lake Elizabeth	21B19	2900	3/28	92	36.1	37.9	50.7
Stevens Pass	21B01	4070	3/13	115	39.7	40.6	52.3
			3/27	116	45.5	40.9	54.9
Stevens Pass Sand Shed	21B45	3700	3/13	81	27.2	31.3	37.5
			3/27	79	29.8	30.4	39.5

Average based on 1963-77 average

USDA SCS PORTLAND OREGON 1973

WSFR-x4-L

SNOW DATA TO APRIL 1, 1980 - APPENDIX 7

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	THIS YEAR Snow Depth (Inches)	THIS YEAR Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	PAST RECORD Water Content (inches) Average #
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	3/28	26	8.9	10.1	15.4
Beaver Pass	21A01	3680	3/27	66	22.6	19.1	35.0
Brown Top Ridge +	21A28a	6000	3/27	130	47.2	35.6	74.2
Cloudy Pass	20A22a	6500	4/2	Marker down		38.7	49.8
Devils Park	20A04	5900	3/28	102	37.1	32.4	47.7
Freezeout Creek Trail	20A01	3500	3/27	31	9.8	11.1	13.7
Freezeout Meadows New	20A38	5000	3/27	72	23.7	28.0	41.0
Granite Creek	21A29A	3500	3/28	43	14.3	13.8	22.3
Harts Pass	20A05A	6500	3/28	109	39.6	31.9	48.5
Klesilkwa	35B-Can	3700	4/1	27	8.3	9.6	14.9*
Lyman Lake	20A23A	5900	4/2	132	49.5	43.8	65.5
Meadow Cabins	20A08	1900	3/28	4.9	1.6	5.8	6.6
New Hozomeen Lake	21A30	2800	3/27	30	10.2	10.8	15.2
New Tashme	26A-Can	2500	3/30	24	6.7	8.7	10.7*
Quartette Lake	34-Can	4000	3/27	34	10.6	11.0	14.4*
Rainy Pass	20A09	4780	3/28	91	33.0	28.0	43.7
Thunder Basin	20A07	4200	3/28	45	13.4	19.9	24.7
BAKER RIVER							
Dock Butte	21A11A	3800	3/30	133	47.0	-	74.5
Easy Pass	21A07A	5200	3/30	165	58.0	-	88.7
Jasper Pass	21A06A	5400	3/30	185	65.0	-	92.6
Marten Lake	21A09A	3600	3/30	158	55.0	-	82.8
Mount Blum +	21A18a	5800	3/30	142	50.0	-	65.9
Panorama New	21A26	4300	3/30	139	61.0	52.3	77.0
Rocky Creek	21A12A	2100	3/30	18	6.0	-	34.4
Schreibers Meadow	21A10A	3400	3/30	108	38.0	-	68.8
S. F. Thunder Creek	21A14A	2200	3/30	18	6.0	-	7.9
Watson Lakes	21A08A	4500	3/30	124	43.0	-	72.3
NOOKSACK RIVER							
Bald Mountain +	21A19a	4400	4/3	120	45.8	43.4	60.0
Canyon +	21A20a	5100	4/3	143	54.2	43.9	73.9
Glacier Creek	21A23	3700	3/31	36	11.1	21.5	19.9
Panorama New	21A26	4300	3/30	139	61.0	52.3	77.0
Twin Lakes +	21A21a	5200	4/3	146	58.6	52.2	84.4
O L Y M P I C P E N I N S U L A							
DUNGENESS RIVER							
Deer Park	23B04	5200	3/27	47	15.7	19.1	22.9
MORSE CREEK							
Cox Valley	23B14	4500	3/27	81	28.5	30.8	44.3
ELWHA RIVER							
Hurricane	23B03	4500	3/29	39	10.7	17.5	26.9

\# Average based on 1963-77 average

* Average for years of record

\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
  Corps of Engineers
U. S. Department of Agriculture
  Forest Service
U. S. Department of Commerce
  NOAA, National Weather Service
U. S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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Water Supply Outlook For Washington

SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE

Cooperating with

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TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States and in the Columbia Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

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PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
Colorado (N. Mex.)	P. O. Box 17107, Denver, Colorado 80217
Idaho	Room 345, 304 N. 8th. St., Boise, Idaho 83702
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno, Nevada 89505
Oregon	1220 S. W. Third Ave., Portland, Oregon 97204
Utah	4420 Federal Bldg., 125 South State St., Salt Lake City, Utah 84138
Washington	360 U. S. Court House, Spokane, Washington 99201
Wyoming	P. O. Box 2440, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

WATER SUPPLY OUTLOOK

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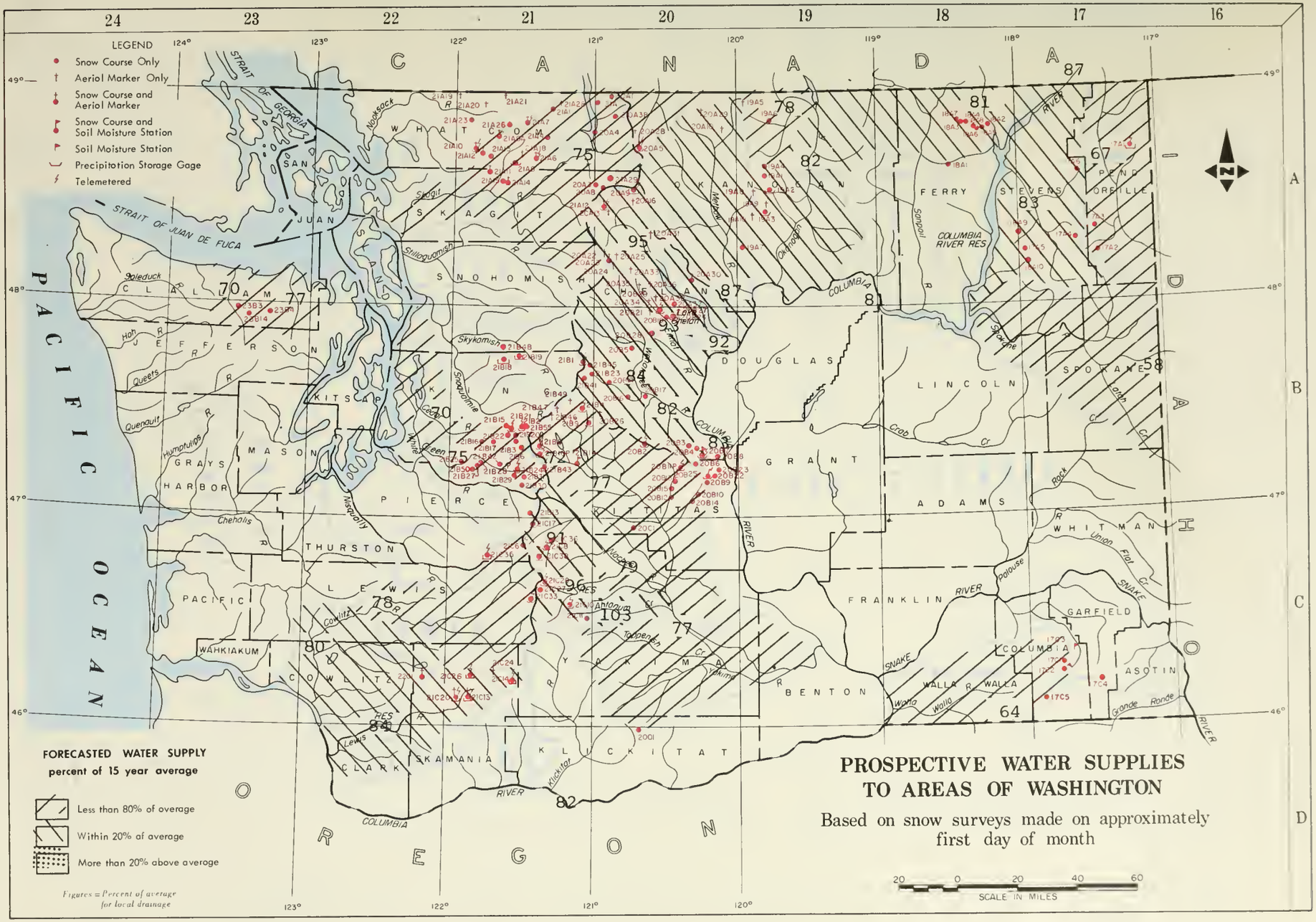

INDEX to WASHINGTON SNOW COURSES, SOIL MOISTURE STATIONS and PRECIPITATION STORAGE GAGES

UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bayer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Road	18A2	36	39N	36E	1450
Butte Creek	18A3	28	39N	35E	4070
Cabin Creek	18A8	5	38N	36E	3170
Goat Creek	18A4	26	39N	35E	3595
Snaw Caps Creek	18A5	3	38N	36E	2150
Snow Caps Trail	18A6	5	38N	36E	2720
Summit G. S.	18A7	20	39N	35E	4600

Calville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlson	18A9	34	32N	38E	2885
Chewelah	17A4	11	32N	41E	4925
Stranger Mountain	17A5	26	31N	38E	4990
Tago	18A10	6	29N	38E	3370

Sanpail River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	18A1	19	36N	35E	5350

Okanogan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Muttan Creek No. 1	19A1	30	37N	24E	5700
Muttan Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	18E	4300
Rusty Creek	19A3P	18	35N	24E	4000
Salmon Meadaws	19A2SP	33	37N	24E	4500
Starvation Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845

Methaw River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	38N	20E	6400
Dollar Watch	20A29a	8	39N	20E	7000
Harts Pass	20A5SP	7	37N	18E	6500
Horseshae Basin	19A5a	15	40N	23E	7000
Laup Laup	19A7	36	34N	23E	4650

Chelan Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Claudy Pass	20A22a	12	31N	15E	6500
Greenwaad Flat	20A25a	3	31N	16E	3540
Little Meadaws	20A24a	8	31N	16E	5275
Lyman Lake	20A23SP	18	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	18	34N	16E	4600
Petersans	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbor	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	18E	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	28N	18E	5425
Brief	20B19	34	28N	19E	1600
Entiat Meadaws	20A33a	28	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Faur Mile Ridge	20B27a	15	28N	19E	6800
Fax Camp	20A36a	17	30N	18E	6510
Pape Ridge	20B20	22	29N	18E	3540
Pape Ridge Snaw Pillaw	20B24SP	22	29N	18E	3540
Pugh Ridge	20A32a	34	30N	18E	6725
Shady Pass	20A3?	20	29N	19E	6200
Snaw Brushy	20A35a	21	30N	17E	3910
Tammy Creek	20B21a	10	28N	18E	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass No. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenwarth R. S.	20B17	1	24N	17E	1127
Merritt	20B18	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	4070
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Traugh #2	20B25SP	10	20N	20E	5310

Colackum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colackum Creek Upper	20B22	11	20N	20E	5300
Colackum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20B8	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Baulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colackum Pass	20B9	25	20N	20E	5370
Cooke Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grause Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Joe Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21B8P	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asatin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Touchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cause	17C3m	2	9N	40E	3370
Homestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Touchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Pass	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lane Pine Shelter	21C26SP	8	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadaw	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	8E	4250

Cawlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Corral Pass	21B13SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mountain	21B42SP	21	21N	9E	3200
Grass Mountain No. 2	21B27	14	20N	8E	2900
Grass Mountain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	8E	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snowshae Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fark Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snoqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadaw	21B48	31	27N	9E	3500
Olallie Meadaws	21B2P	19	22N	11E	3625
South Fork Tolt	21B18P	26	26N	9E	1900
Olallie Meadows East	21B55SP	20	22N	11E	3700

Skykomish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brawn Tap	21A28a	26	40N	12E	6000
Devils Park	20A4	34	38N	16E	5900
Freezeaut Creek Trail	20A1	14	40N	14E	3500
Freezeaut Meadaws (New)	20A38	8	40N	16E	5000
Granite Creek	21A29	2	36N	16E	3500
Meadaws Cabins	20A8	29	36N	14E	1900
New Hazameen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Dack Butte	21A11A	8	36N	8E	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	38N	11E	5400
Marten Lake	21A9A	23	38N	8E	3600
Maunt Blum	21A18a	27	38N	10E	5800
Rocky Creek	21A12AP	20	37N	8E	2100
Schreibers Meadaw	21A10AP	18	37N	8E	3400
S. F. Thunder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	8E	1600
Three Mile Creek	21A15	18	36N	9E	1600
Watsan Lakes	21A8P	25	37N	9E	4500

Nooksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	8E	5100
Glacier Creek	21A23	9-10	38N	7E	3700
Panarama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Morse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A7p	Precipitation Storage Gage
21A7SP	Snow Pillow

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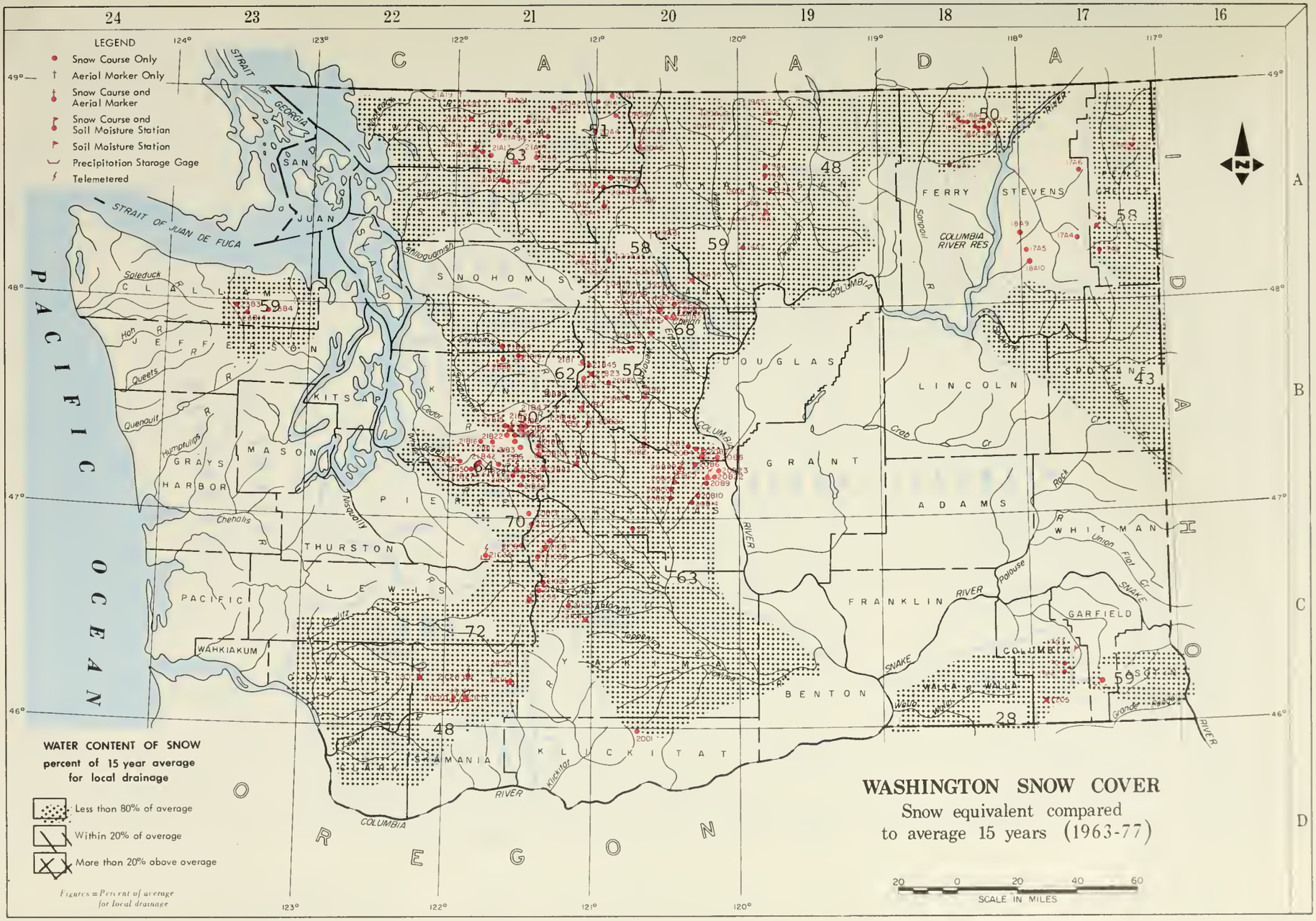

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UPPER COLUMBIA DRAINAGE

Pend Oreille River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bayer Mountain	17A2	7	31N	43E	5250
Bunchgrass Meadow	17A1SP	24	37N	44E	5000
Winchester Creek	17A3	30	33N	43E	2970

Kettle River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Boulder Raad	1BA2	36	39N	36E	1450
Butte Creek	1BA3	28	39N	35E	4070
Cabin Creek	1BAB	5	38N	36E	3170
Goat Creek	1BA4	26	39N	35E	3595
Snaw Caps Creek	1BA5	3	38N	36E	2150
Snaw Caps Trail	1BA6	5	38N	36E	2720
Summit G. S.	1BA7	20	39N	35E	4600

Colville River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Baird	17A6	19	36N	42E	3215
Carlsan	1BA9	34	32N	3BE	2BB5
Chewelah	17A4	11	32N	41E	4925
Stranger Mauntain	17A5	26	31N	3BE	4990
Tago	1BA10	6	29N	3BE	3370

Sanpail River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Sherman Creek Pass	1BA1	19	36N	35E	5350

Okanagan River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Clark	19A8a	2	36N	23E	7000
Muckamuck	19A9a	20	36N	24E	6750
Muttan Creek No. 1	19A1	30	37N	24E	5700
Muttan Creek No. 2	19A4	19	37N	24E	6000
Paysayten	20A28a	32	40N	1BE	4300
Rusty Creek	19A3P	1B	35N	24E	4000
Salman Meadows	19A2SP	33	37N	24E	4500
Starvatian Mtn.	19A10a	15	35N	23E	6750
Tauts Caulee	19A6	30	39N	25E	2845

Methaw River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Billy Goat Pass	20A10a	10	3BN	20E	6400
Dollar Watch	20A29a	B	39N	20E	7000
Harts Pass	20A5SP	7	37N	1BE	6500
Horseshae Basin	19A5a	15	40N	23E	7000
Laup Laup	19A7	36	34N	23E	4650

Chelan Lake Basin

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Claudy Pass	20A22a	12	31N	15E	6500
Greenwood Flat	20A25a	3	31N	16E	3540
Little Meadaws	20A24a	B	31N	16E	5275
Lyman Lake	20A23SP	1B	31N	16E	5900
Park Creek Flat	20A13a	19	34N	16E	2220
Park Creek Ridge	20A12SP	1B	34N	16E	4600
Petersans	20A16a	3	34N	17E	3730
Rainy Pass	20A9SP	21	35N	17E	4780
Safety Harbar	20A30a	32	31N	20E	6300
War Creek Pass	20A31a	34	33N	1BE	6500

Entiat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Blue Creek G.S.	20B28a	19	2BN	1BE	5425
Brief	20B19	34	2BN	19E	1600
Entiat Meadaws	20A33a	2B	31N	17E	4540
Entiat River Trail	20A34a	2	29N	17E	3325
Faur Mile Ridge	20B27a	15	2BN	19E	6800
Fox Camp	20A36a	17	30N	1BE	6510
Pape Ridge	20B20	22	29N	1BE	3540
Pape Ridge Snow Pillow	20B24SP	22	29N	1BE	3540
Pugh Ridge	20A32a	34	30N	1BE	6725
Shady Pass	20A37	20	29N	19E	6200
Snaw Brushy	20A35a	21	30N	17E	3910
Tammy Creek	20B21a	10	28N	1BE	4900

Wenatchee River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Berne-Mill Creek	21B23	7	26N	15E	3170
Berne-Mill Creek (New)	21B41SP	13	26N	14E	3240
Blewett Pass Na. 2	20B2 SP	35	22N	17E	4270
Chiwaukum G. S.	20B16	4	25N	17E	1810
Lake Wenatchee	20B5	33	27N	17E	1970
Leavenworth R. S.	20B17	1	24N	17E	1127
Merritt	20B1B	4	26N	16E	2140
Stevens Pass	21B1SP	14	26N	13E	40/0
Stevens Pass Sand Shed	21B45	12	26N	19E	3700
Traugh #2	20B25SP	10	20N	20E	5310

Colockum Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Colackum Creek Upper	20B22	11	20N	20E	5300
Colockum Creek Lower	20B23	1	20N	20E	4300

Squilchuck Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beehive Springs	20B3	12	21N	19E	4400
Scout-A-Vista	20B4	18	21N	20E	3400

Stemilt Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Jump-Off	20BB	34	21N	20E	4450
Stemilt Slide	20B6	30	21N	20E	5000
Upper Wheeler	20B7SP	30	21N	20E	4400

Yakima River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Ahtanum R. S.	21C11	24	12N	14E	3100
Big Boulder Creek	21B9SP	35	23N	14E	3200
Bumping Lake	21C8P	23	16N	12E	3450
Bumping Lake New	21C36	13	16N	12E	3400
Bumping Ridge	21C38SP	9	15N	12E	4600
Colockum Pass	20B9	25	20N	20E	5370
Caake Creek	20B10	17	19N	20E	4123
Fish Lake	21B4SP	28	24N	14E	3371
Green Lake	21C10SP	3	12N	13E	6000
Grause Camp	20B11SP	29	21N	19E	5385
High Creek	20B12	34	20N	19E	2930
Jae Lake	21B46a	22	23N	12E	4624
Lake Cle Elum	21B14M	15	20N	14E	2200
Lemah Creek	21B47a	7	23N	13E	3327
Manastash	20C1	24	17N	16E	3935
Morse Lake	21C17SP	6	16N	11E	5400
Nanum	20B13	4	20N	19E	3875
Trail Creek	20B14	20	19N	20E	3360
Tunnel Avenue	21BBP	13	21N	11E	2450
Van Epps Pass	20B26a	16	23N	15E	5925
Walters Flat	20B15	22	20N	19E	3360
Waptus Lake	21B49a	12	23N	13E	3024
White Pass (East Side)	21C28SP	2	13N	11E	4500

LOWER COLUMBIA DRAINAGE

Asatin Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Spruce Springs	17C4	9	8N	40E	5700

Touchet River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cause	17C3m	2	9N	40E	3370
Hamestead	17C1	11	9N	40E	4030
Martin Springs (Helmers SM)	17C2M	23	9N	40E	4400
Tauchet No. 2	17C5SP	6	7N	40E	5530

Klickitat River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Satus Pass	20D1	21	6N	17E	4030

Lewis River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lane Pine Shelter	21C26SP	B	9N	7E	3800
Plains of Abraham	22C1SP	35	9N	5E	4400
Spencer Meadow	21C20SP	16	8N	7E	3400
Surprise Lakes	21C13SP	14	7N	BE	4250

Cawlitz River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cayuse Pass	21C6	15	16N	10E	5300
Pigtail Peak	21C33SP	11	13N	11E	5900
Potato Hill	21C14SP	36	10N	10E	4500

PUGET SOUND DRAINAGE

Nisqually River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Paradise Park (New)	21C35SP	13	15N	8E	5500

White River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Corral Pass	21B13SP	30	18N	11E	6000

Green River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Airstrip	21B24P	18	20N	11E	1800
Charley Creek	21B25	27	21N	8E	1200
Cougar Mauntain	21B42SP	21	21N	9E	3200
Grass Mauntain No. 2	21B27	14	20N	8E	2900
Grass Mauntain No. 3	21B28	12	20N	8E	2100
Lester Creek	21B29	36	20N	10E	3100
Lynn Lake	21B50	22	20N	BE	4000
Sawmill Ridge	21B31	5	19N	11E	4700
Snawshoe Butte	21B43SP	14	20N	11E	5000
Stampede Pass	21B10SP	25	21N	11E	3860
Twin Camp	21B30	18	19N	11E	4100

Cedar River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
City Cabin	21B3	10	21N	10E	2390
Mt. Gardner	21B21P	30	22N	10E	3300
Mt. Gardner Aux.	21B22	31	22N	10E	2500
Mt. Lindsay	21B16P	31	22N	9E	2500
Mt. Washington	21B15P	8	22N	9E	3000
Rex River	21B17P	11	21N	9E	2400
South Fork Cedar	21B6P	24	21N	10E	3000
Tinkham Creek	21B20P	1	21N	10E	3400

Snaqualmie River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Alpine Meadow	21B48	31	27N	9E	3500
Olallie Meadows	21B2P	19	22N	11E	3625
South Fork Talt	21B18P	26	26N	9E	1900
Olallie Meadaws East	21B55SP	20	22N	11E	8700

Skykamish River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Lake Elizabeth	21B19P	33	26N	10E	2900

Skagit River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Beaver Creek Trail	21A4	35	39N	12E	2200
Beaver Pass	21A1	9	39N	12E	3680
Brawn Tap	21A28a	26	40N	12E	6000
Devils Park	20A4	34	3BN	16E	5900
Freezeout Creek Trail	20A1	14	40N	14E	3500
Freezeaut Meadaws (New)	20A3B	9	40N	16E	5000
Granite Creek	21A29	25	36N	16E	3500
Meadaws Cabins	20A8	29	36N	14E	1900
New Hazomeen Lake	20A7	19	40N	14E	2800
Thunder Basin	21A30	10	35N	14E	4200

Baker River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Duck Butte	21A11A	B	36N	BE	3800
Easy Pass	21A7A	19	39N	11E	5200
Jasper Pass	21A6A	17	3BN	11E	5400
Marten Lake	21A9A	23	3BN	8E	3600
Maunt Blum	21A18a	27	3BN	10E	5800
Rocky Creek	21A12AP	20	37N	BE	2100
Schreibers Meadaw	21A10AP	1B	37N	8E	3400
S. F. Thurder Creek	21A14A	20	36N	9E	2200
Sulphur Creek	21A13	22	37N	BE	1600
Three Mile Creek	21A15	1B	36N	9E	1600
Watson Lakes	21A8P	25	37N	9E	4500

Naaksack River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Bald Mountain	21A19a	7	40N	7E	4400
Canyon	21A20A	20	40N	BE	5100
Glacier Creek	21A23	9-10	3BN	7E	3700
Panarama New	21A26	17	39N	9E	4300
Twin Lakes	21A21a	16	40N	9E	5200

OLYMPIC PENINSULA

Dungeness River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Deer Park	23B4	1	28N	5W	5200

Morse Creek

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Cox Valley	23B14	31	29N	6W	4500

Elwha River

NAME	NUMBER	SEC.	TWP.	RANGE	ELEV.
Hurricane	23B3	36	29N	7W	4500

LEGEND

21A7	Snow Course Only
21A7a	Aerial Marker Only
21A7A	Snow Course And Aerial Marker
21A7M	Snow Course And Soil Moisture Station
21A7m	Soil Moisture Station
21A7P	Snow Course And Precipitation Storage Gage
21A7p	Precipitation Storage Gage
21A7SP	Snow Pillow

WATER SUPPLY OUTLOOK

State of Washington
May 1, 1980

****
** There has been a dramatic reduction in the amount of snow in the hills as **
** of May 1. The warm temperatures that have been experienced over the **
** state and most of its tributary areas have really melted the snowpacks. **
** On April 1, we had a good snowpack, but it was quite dense compared to **
** normal; but now, as of May 1, the low elevation snow is gone; the middle **
** elevation snow is minimal; and the high elevation snow is very subnormal. **
** Rainfall was pretty good over the state with above normal precipitation **
** measured in the northeast and along the east side of the Cascades. On **
** the west side, it is near normal in the south, but quite a bit below **
** average in the north. Canadian precipitation in the Columbia above **
** Castlegar area was also below normal. Generally speaking, runoff was **
** well above normal. Only in the low elevation drainages or areas of light **
** snowpack was runoff subnormal. **
** **
****

SNOW COVER

There are considerably fewer snow courses measured as of May 1, but those that are measured usually have a substantial snowpack. This year, the snowpack is so poor that many of the snow courses were reported to have no snow as of May 1. These, of course, are not used in the average comparisons, but the ones that still have measureable amounts of snow were reported to be well below average. The Pend Oreille Drainage, measured by thirteen snow courses, has a snowpack that is only 58 percent of average - down 25 percent from last month. The Kettle Watershed, measured by ten snow courses, now has a snowpack that is 50 percent of average - down 42 percent. The Spokane Drainage, measured by six courses, has a May 1 snowpack that is 43 percent of average - 20 percent down from last month. The Okanogan, measured by twenty-eight snow courses, both in British Columbia and Washington, has a snowpack that is 48 percent of normal. Only one snow course in the Chelan Drainage was measured this month and that indicates the snowpack to be 58 percent of normal. The Yakima, measured by fifteen snow courses, has a snowpack that is 10 percent less than last year; 36 percent more than was measred in 1978 at this time; but still 37 percent below normal. Last month's snowpack in the Yakima Drainage was 3 percent above average. Along the Lower Columbia, the higher elevation snow courses seem to be the better while anything at a lower elevation can be considered gone. One snow course in Mill Creek has a snowpack that is only 28 percent of average, but another one in the Asotin Watershed at a high elevation, has a snowpack that is 59 percent of average. Four snow courses in the Lewis River Drainage were reactivated as of April 10, and again measured on April 30. The May 1 snowpack on this drainage is only 48 percent of average. We feel that the results of Mt. St. Helens' rumblings and spewing of ash is a deciding factor in this low snowpack remainder. The Cowlitz River, measured by only two snow courses, has a snowpack that is 72 percent of average. It is interesting to note that the Plains of Abraham Snow Course on the northeast slope of Mt. St. Helens lost 76 inches of snow depth from April 10 to April 30; and 32 inches of water during the same period. The normal situation at this location is a gain of 6.3 inches of water. In the Puget Sound Drainage, only the crest stations were reported to have any snow and these range from 50 percent of average to a high of 70 percent. On the Olympic Peninsula, the snowpack on the Dungeness River is 41 percent below average; but on the Elwha, 64 percent below normal - these, each measured by one snow course only.

RESERVOIRS

We have had a marked improvement in the reservoir situation from that reported last month. The high flows of April were caught by the reservoirs and resulted in this marked improvement. The five irrigation reservoirs in the Yakima Basin, including Lake Cle Elum which is still not operational, have 76 percent of capacity amounts of water in storage as of May 1. This is 8 percent greater than average for these reservoirs. The two small irrigation reservoirs in the Okanogan Irriation District have 50-90 percent of capacity water in storage. Conconully Reservoir has 16 percent below the average amount of water in storage and Conconully Lake, formerly called Salmon Lake, has 12 percent above average water in storage as of May 1. The one power reservoir that has really improved dramatically is Lake Roosevelt. This reservoir now has 183 percent greater than average water in storage as of May 1, although it is still only 47 percent full.

PRECIPITATION

As stated above, reasonable amounts of rainfall fell over the watersheds that affect our Washington water supply. The Columbia above Castlegar had 87 percent of normal precipitation; the Pend Oreille-Spokane Drainage Divison, 9 percent above normal; but northeastern Washington, the best, has 75 percent better than average rainfall. In southeastern Washington, precipitation was only 58 percent of normal; but along the eastern slopes of the Cascades, precipitation was 22 percent above normal in the north and 11 percent in the central and southern areas. On the northwest slopes, rainfall was 27 percent less than average; but on the southwest slopes, only 4 percent subnormal.

STREAMFLOW

As a result of the normal or above precipitation and the well above normal temperatures experienced during the month, runoff was very good over most of the state. In those areas where there was little snow to melt off or the snow had already melted off, runoff was subnormal. The Pend Oreille had flows 3 percent less than normal; the Spokane, 16 percent subnormal; the Palouse River, as measured at Hooper, was 53 percent below average; and the Walla Walla River, 14 percent below. Other streams ranged up to 79 percent above average - this occurring on the Columbia River as measured at Birchbank. Forecasts have been markedly reduced from those issued last month, in part due to the high flows of April; and in part, the lack of snowpacks in the higher elevations. Reductions as great as 12 to 15 percent can be expected over most of the state. This, we feel, could cause some water shortages late in the irrigation water use season. The deciding factor in this will be the summer and early fall precipitation. If this occurs in normal or better manner, the water shortages should be minimal; but if we get another dry summer with very little rainfall in late summer, then the shortages will be more pronounced. Numerical forecasts can be found on the following pages.

STREAMFLOW FORECASTS - MAY 1980

The following summarized runoff forecasts are based principally on mountain snowcover and on the assumption that precipitation and temperature will be near average from the present time to the end of the forecast period. Appreciable deviations from normal of temperature and/or precipitation will correspondingly modify these forecasts. These forecasts are made as a product of the cooperative efforts of the Soil Conservation Service and the National Weather Service. Streamflow figures for 1979 are preliminary and subject to revision.

Basin, Stream and Station	Forecast Runoff 1980	Seasonal Streamflow in Thousands of Acre-Feet: % 15-Yr. Avg.	Fore-cast period	1979	1978	1977	15-Yr Average 63-77
		COLUMBIA BASIN					
COLUMBIA RIVER SYSTEM							
Columbia River	37000	87	May-Sept	32506	40601	29012	42769
at Birchbank 1/	29250	87	May-July	25203	30622	21262	33621
	20400	87	May-June	17683	20674	15476	23461
Columbia River	50000	81	May-Sept	47880	58882	36594	61503
at Grand Coulee 1/	40900	81	May-July	39207	46573	27557	50526
	30590	81	May-June	30248	33599	21162	37764
Columbia River	55600	83	May-Sept	50210	64144	38555	67050
bl. Rock Island Dam 1/	46130	83	May-July	41612	51416	29394	55578
	34530	83	May-June	32364	37495	22704	41605
Columbia River	72500	82	May-Sept	66834	85792	46862	90981
at The Dalles, OR 1/	60800	80	May-July	55749	69552	35710	76007
	47000	80	May-June	45007	52090	28294	58725
PEND OREILLE RIVER SYSTEM							
Pend Oreille River	9080	67	May-Sept	10206			13595
bl. Box Canyon	8230	67	May-July	9662			12286
	6850	67	May-June	8783			10230
KETTLE RIVER SYSTEM							
Kettle River	1310	81	May-Sept	1140	1682	973	1616
nr. Laurier	1260	83	May-July	1086	1504	933	1524
	1120	82	May-June	1012	1313	865	1358
Colville River	70	83	May-Sept		84	17	84
at Kettle Falls	60	82	May-July		71	13	73
	55	85	May-June		63	12	65

1/ Observed flow corrected for storage in any of the following reservoirs which are above the station: Kootenay Lake, Hungry Horse, Flathead Lake, Pend Oreille Lake, F. D. Roosevelt Lake, Lake Chelan, Coeur d'Alene Lake, Brownlee, Noxon Reservoir and pumpage at F. D. Roosevelt Lake.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Fore-cast period	Seasonal Streamflow in Thousands of Acre-Feet 1979	1978	1977	15-Yr. Average 63-77
SPOKANE RIVER SYSTEM							
Spokane River	1200	58	May-Sept	1924			2102
at Post Falls, ID 2/	1080	55	May-July	1872			1966
	1010	55	May-June	1793			1833
OKANOGAN RIVER SYSTEM							
Similkameen River	1120	78	May-Sept	811	1377	558	1440
nr. Nighthawk	1040	78	May-July	751	1236	517	1339
	890	80	May-June	667	1041	640	1114
Okanogan River	1300	82	May-Sept	844	1513	617	1595
nr. Tonasket	1180	82	May-July	763	1323	553	1441
	990	84	May-June	671	1109	492	1180
METHOW RIVER SYSTEM							
Methow River	820	87	May-Sept		1045	255	938
nr. Pateros	760	88	May-July		930	221	864
	630	88	May-June		748	192	718
CHELAN RIVER SYSTEM							
Chelan River	1050	92	May-Sept	675	1179	510	1139
at Chelan 3/	900	92	May-July	584	1008	392	982
	680	92	May-June	475	750	314	736
Stehekin River	785	95	May-Sept	511	795	422	823
at Stehekin	650	95	May-July	422	656	310	683
	480	97	May-June	332	469	239	497
Entiat	210	93	May-Sept	124	264	80	227
nr. Ardenvoir	190	93	May-July	110	237	65	204
	150	94	May-June	94	185	54	159
WENATCHEE RIVER SYSTEM							
Wenatchee River	980	84	May-Sept		1115	506	1172
at Plain	880	85	May-July		975	414	1032
	670	86	May-June		749	352	778
Wenatchee River	1300	82	May-Sept	1058	1490	673	1595
at Peshastin	1160	82	May-July	963	1311	564	1414
	890	83	May-June	823	1010	487	1077
Stemilt Basin nr. Wenatchee	120	87	May-Sept				138*
Icicle Creek	310	83	May-Sept				371
nr. Leavenworth	285	83	May-July				342
	230	83	May-June				279

2/ Observed flow corrected for storage in Coeur d'Alene Lake and diversions by Spokane Valley Farms Company and Rathdrum Prairie Canals.

3/ Observed flow corrected for storage in Lake Chelan.

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	1979	1978	1977	15-Yr. Average 63-77
			Seasonal Streamflow in Thousands of Acre-Feet				
YAKIMA RIVER SYSTEM							
Yakima River	88	72	May-Sept	99	88	50	122
nr. Martin 4/	78	71	May-July	89	75	39	110
	65	75	May=June	77	67	39	91
Yakima River	630	77	May-Sept	574	644	352	827
at Cle Elum 5/	550	75	May-July	543	532	276	735
	450	75	May-June	459	451	238	603
Yakima River	1400	77	May-Sept	1115	1504	596	1815
nr. Parker 6/	1280	80	May-July	1014	1218	451	1601
	1070	80	May-June	906	1014	405	1340
Kachess River	80	76	May-Sept	76	73	40	105
nr. Easton 7/	75	76	May-July	70	67	33	98
	65	79	May-June	63	60	32	82
Cle Elum River	350	83	May-Sept	295	346	186	423
nr. Roslyn 8/	320	84	May-July	273	301	150	379
	250	83	May-June	239	247	128	302
Bumping River	120	91	May-Sept	90	100	49	132
nr. Nile 9/	110	92	May-July	83	89	41	119
	80	86	May-June	73	74	37	93
American River	105	92	May-Sept		93	39	114
nr. Nile	95	92	May-July		81	33	103
	75	92	May-June		65	29	82
Tieton River	215	96	May-Sept	159	191	109	223
at Tieton Dam 10/	170	93	May-July	128	152	73	183
	130	94	May-June	100	112	57	139
Naches River	610	79	May-Sept	492	560	262	772
nr. Naches 11/	550	80	May-July	446	495	202	684
	450	81	May-June	395	403	182	558
Ahtanum Creek	40	103	May-Sept		37	6	39
nr. Tampico 12/	35	100	May-July		32	5	35
	30	103	May-June		26	4	29

4/ Observed flow corrected for storage in Lake Keechelus.
5/ Observed flow corrected for storage in Keechelus, Kachess, and Cle Elum Lakes and diversion by Kittitas Canal.
6/ Observed flow corrected for storage in Keechelus, Kachess, Cle Elum, Bumping, and Rimrock Lakes and diversions by Roza, Union Gap, New Reservation, Old Reservation, and Sunnyside Canals.
7/ Observed flow corrected for storage in Lake Kachess.
8/ Observed flow corrected for storage in Lake Cle Elum.
9/ Observed flow corrected for storage in Bumping Lake.
10/ Observed flow corrected for storage in Rimrock Lake.
11/ Observed flow corrected for storage in Bumping and Rimrock Lakes and diversions by Tieton, Selah Valley, Wapatox Canals, and City of Yakima.
12/ Observed flow of North and South Forks (Combined).

Basin, Stream and Station	Forecast Runoff 1980	% 15-Yr. Avg.	Forecast period	1979	1978	1977	15-Yr. Average 63-77
				Seasonal Streamflow in Thousands of Acre-Feet			
LOWER COLUMBIA RIVER SYSTEM							
Mill Creek	4.9	64	May-Sept		4.56	0.76	7.7
at Walla Walla	4.7	63	May-July		4.44	0.58	7.5
	4.6	63	May-June		4.36	0.54	7.3
Lewis River	810	84	May-Sept	683	798	749	960
at Ariel 13/	660	84	May-July	548	504	551	790
	540	83	May-June	463	408	482	654
Cowlitz River	1340	78	May-Sept		1292	1165	1717
bl. Mayfield Dam	1125	78	May-July		1005	888	1445
	900	79	May-June		808	763	1144
Cowlitz River	1730	80	May-Sept	1474	1705	1598	2170
at Castle Rock 14/	1360	75	May-July	1235	1308	1207	1804
	1085	76	May-June	1026	1054	1042	1432
OLYMPIC PENINSULA							
DUNGENESS RIVER SYSTEM							
Dungeness River	110	77	May-Sept		136	82	143
nr. Sequim	90	80	May-July		99	59	113
	65	82	May-June		67	45	79
PUGET SOUND							
SKAGIT RIVER SYSTEM							
Skagit River	1500	75	May-Aug	1352	1673	475	2017
at Newhalem 15/	1625	75	May-Sept	1477	1885	560	2161
	1350	76	May-July	1188	1460	368	1776
	990	77	May-June	932	1055	261	1290
ELWHA RIVER SYSTEM							
Elwha River	335	70	May-Sept		395	298	480
nr. Port Angeles	265	70	May-July		288	223	381
GREEN RIVER SYSTEM							
Green River	175	75	May-Sept	148	144	140	233
bl. Howard Hanson Dam 16/							
CEDAR RIVER SYSTEM							
Cedar River	65	70	Apr-Sept		59	55	93
nr. Cedar Falls							

13/ Observed flow corrected for storage in Lake Merwin, Yale and Swift Reservoirs.
14/ Observed flow corrected for storage in Mayfield Reservoir.
15/ Observed flow corrected for storage in Diablo, Ross, and Gorge Reservoirs.
16/ Observed flow corrected for storage in Howard Hanson Dam.

COMPARISON OF SNOW COVER WITH THAT OF PREVIOUS YEARS

The following tabulation of Washington stream basins presents the water content of the snow about May 1, 1980, as percent of the same date in 1979 and 1978 and average of record.

Tributary Basin	No. of Courses Average	1980 Snow Water Expressed as percent of 1979	1978	1963-77 Avg.
UPPER COLUMBIA BASIN				
Pend Oreille	13	68	73	58
Kettle	10	71	45	50
Spokane	6	51	65	43
Okanogan	28	77	44	48
Methow	4	172	49	59
Chelan	1	94	59	58
Entiat	9	112	58	68
Wenatchee	6	68	91	55
Yakima	15	90	136	63
LOWER COLUMBIA BASIN				
Asotin	1	55	91	59
Mill Creek	1	19	51	28
Lewis	4	-	72	48
Cowlitz	2	96	111	72
PUGET SOUND				
White	3	88	90	70
Green	2	72	108	64
Snoqualmie	1	60	127	50
Skykomish	2	80	84	62
Skagit	10	76	79	51
Baker	7	97	89	63
Nooksack	1	88	115	58
OLYMPIC PENINSULA				
Morse Creek	1	79	91	62
Elwha	1	63	77	36
Dungeness	1	65	117	59

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured May 1 1980	1979	1978	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	264.5	260.5	202.4	238.4
Columbia	Franklin D. Roosevelt Lake	5232.0	2460.0	909.9	860.4	867.8
Columbia	Banks Lake	714.9	527.9	393.4	505.0	442.8
Okanogan	Conconully Reservoir	13.0	6.5	10.3	5.7	7.7
Okanogan	Conconully (Salmon) Lake	10.5	9.0	10.5	7.4	8.0
Chelan	Lake Chelan	676.1	214.4	163.4	242.2	219.0
		YAKIMA				
Yakima	Keechelus Lake	157.8	131.5	117.0	150.4	113.8
Kachess	Kachess Lake	239.0	126.7	228.0	237.2	194.2
Cle Elum	Lake Cle Elum	436.9	378.0	180.9	373.5	295.9
Bumping	Bumping Lake	33.7	34.4	13.3	32.4	11.6
Tieton	Rimrock Lake	198.0	144.0	146.4	170.6	136.6
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	644.0	731.6	793.0	711.5
Skagit	Diablo Reservoir	90.6	84.1	86.8	83.3	86.4
Skagit	Gorge Reservoir	9.8	7.5	8.0	7.8	8.1

1/ Based on Active Storage

* 15-yr. Average 1963-1977

SOIL MOISTURE - May, 1980

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content Inches as of May 1 1980	1979	1978
OKANOGAN							
Salmon Meadows	19A2M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	Late	4.4	5.4
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	-	10.1	9.1
Helmers	17C2M	4400	48	12.0	-	-	9.4
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	13.5	11.4	12.6

FALL SOIL MOISTURE

Drainage Basin and Station	Number	Elev.	Profile Depth	Inches Total Capacity	Soil Moisture Content (Inches) as of Oct. 1 1979	1978	1977
OKANOGAN							
Salmon Meadows	19A02M	4500	48	5.4	-	-	-
Trout Creek	3-M	3600	48	7.3	3.1	3.7	3.2
YAKIMA							
Domery Flat	21B20m	2200	48	6.9	-	-	-
Lake Cle Elum	21B14M	2200	48	12.8	-	-	-
WALLA WALLA							
Couse	17C3m	3650	48	11.1	6.7	5.9	-
Helmers	17C2M	4400	48	12.0	8.1	8.2	-
WENATCHEE							
Upper Wheeler	20B7M	4400	48	12.7	5.1	10.3	6.6

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct 1979 2/ Observed	FALL Departure	WINTER Nov.-1979--Mar.-1980 Observed	WINTER Departure	SPRING April 1980 Observed	SPRING Departure
Columbia in Canada	4.44	-0.58	13.78	-1.73	1.48	-0.23
Pend Oreille - Spokane	3.23	-0.81	13.28	-4.27	1.99	+0.17
Northeastern Washington	2.53	+0.05	9.70	+0.30	2.20	+0.94
Southeastern Washington	2.53	+0.02	10.79	+0.36	0.88	-0.65
Central Washington	1.55	+0.58	6.84	+1.56	0.72	+0.07
North Central Washington	2.22	+0.63	6.05	-0.49	1.04	+0.19
Northwest Slope Cascades	10.68	-2.53	51.07	-4.32	4.87	-1.77
Southwest Slope Cascades	9.66	+0.98	35.13	-6.51	4.42	-0.20

Northeastern Washington - Lower Spokane, Colville, Sanpoil and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon and Palouse Drainages.

Central Washington - Yakima, Wenatchee and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages.

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

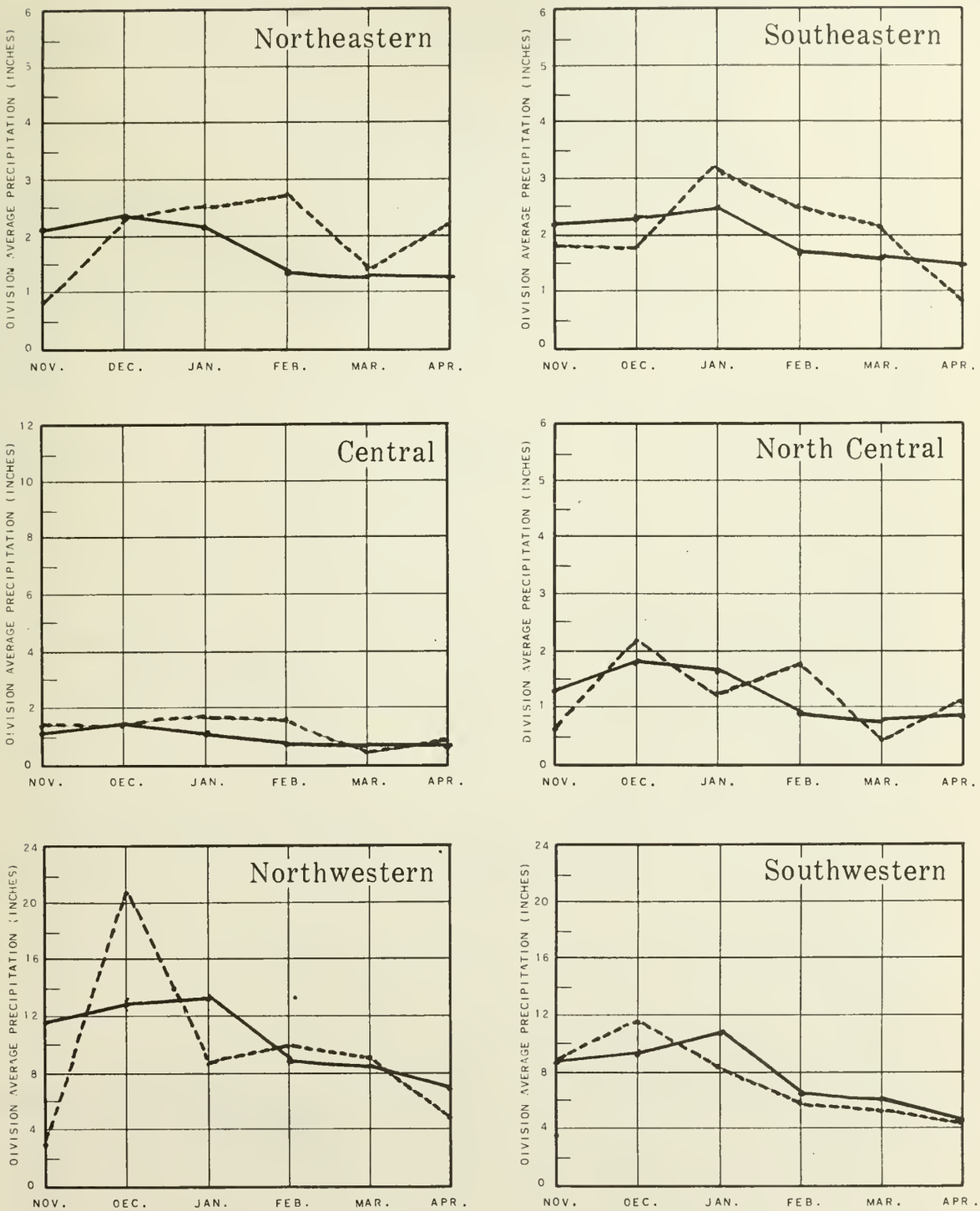
1/ - Preliminary analysis by National Weather Service from data furnished by Meteorlogical Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

WASHINGTON VALLEY PRECIPITATION

1980

DRAINAGE AREAS



Average: ——
1980 : - - - - -

*Preliminary Analysis by National Weather Service

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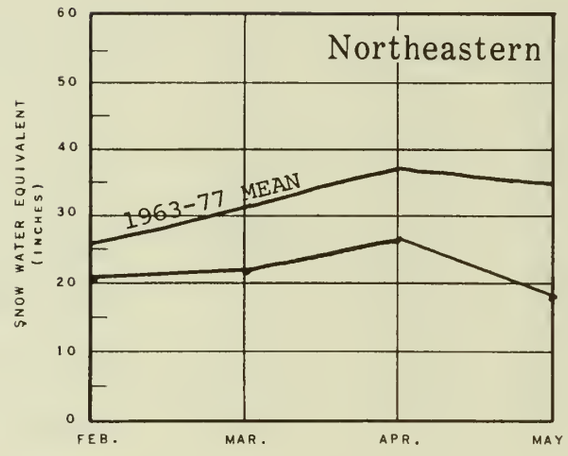
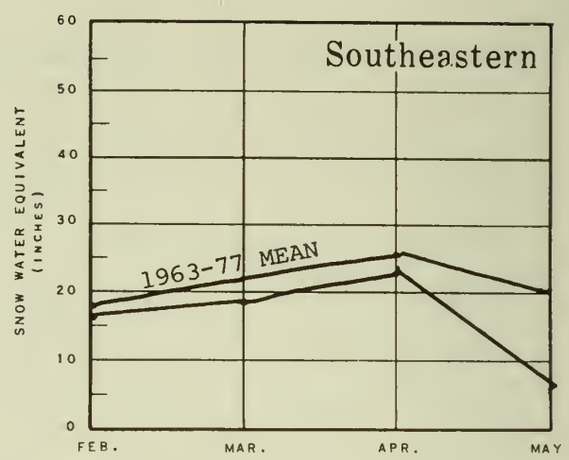
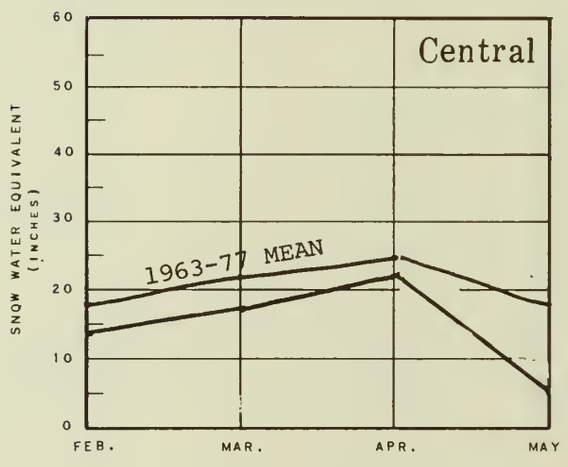
WASHINGTON SNOW COVER

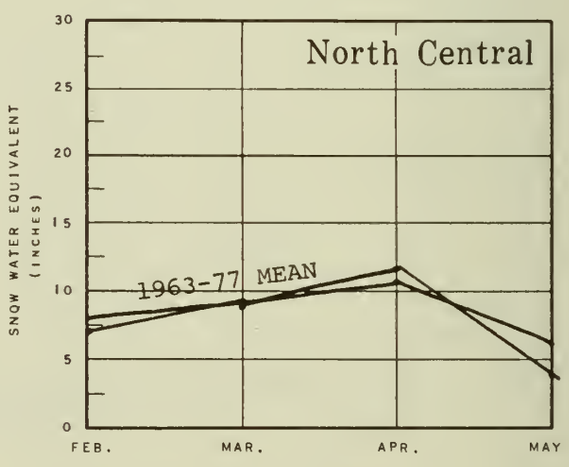
1980

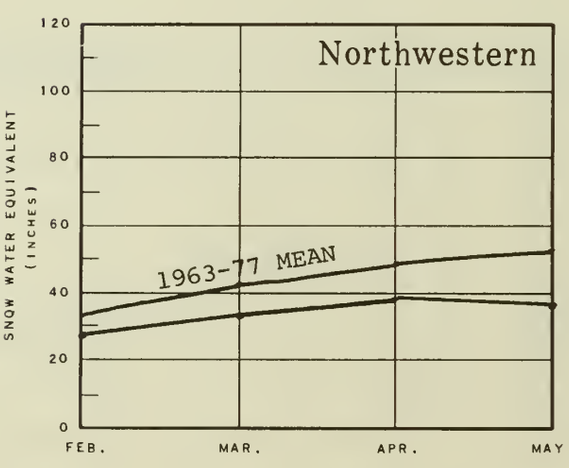
DRAINAGE AREAS

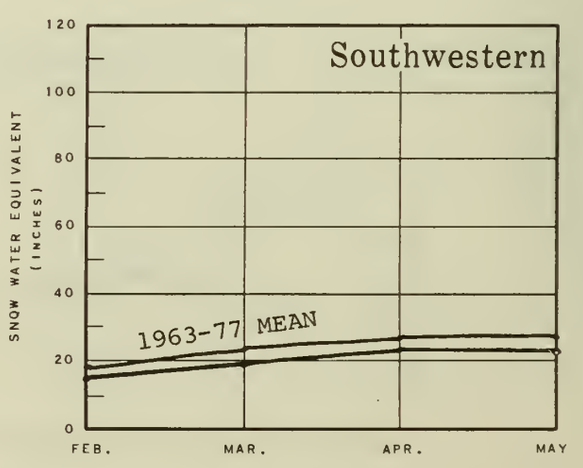












Selected Snow Survey Courses by Soil Conservation Service

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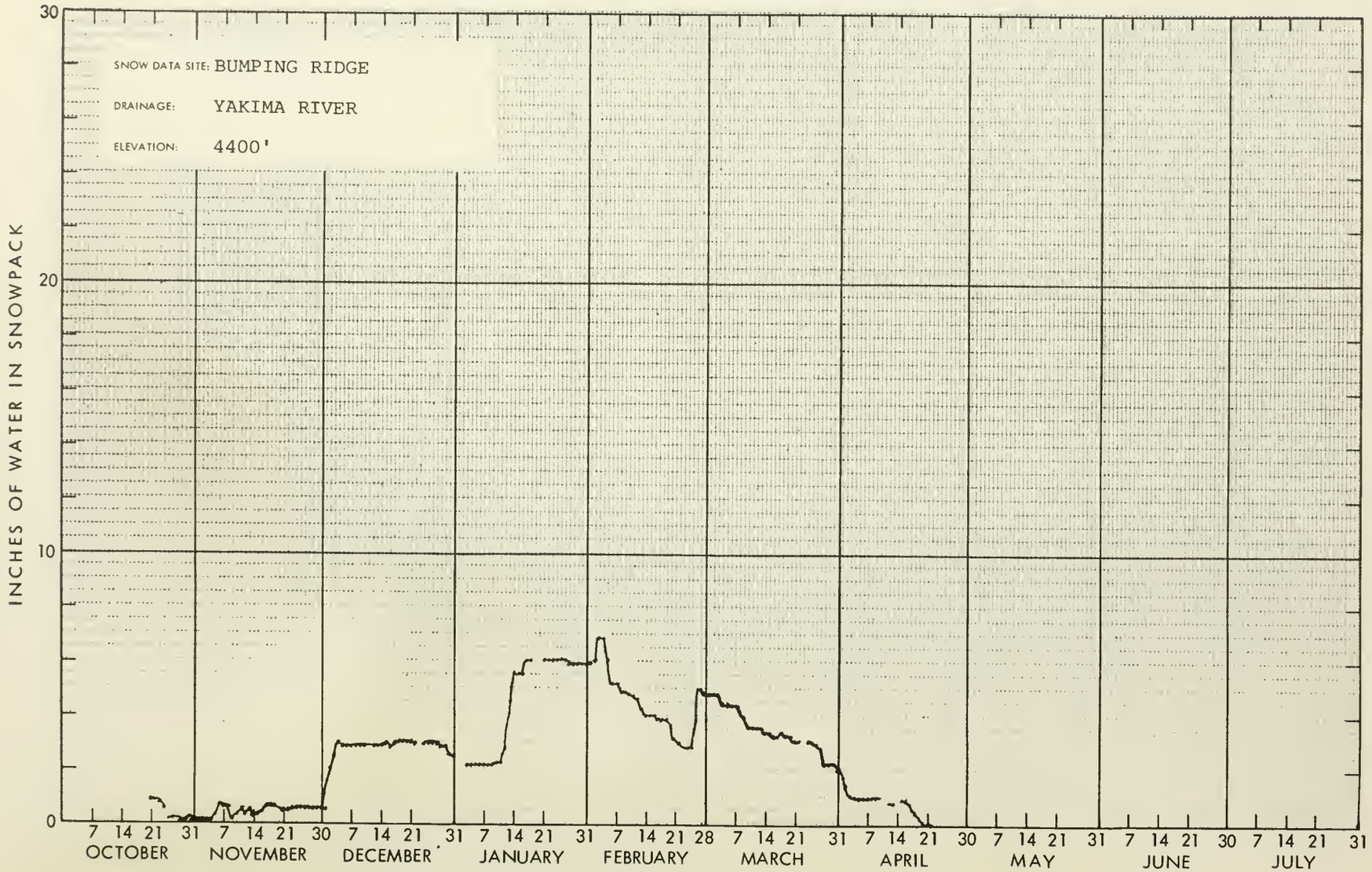
SNOW DATA SITE: BUMPING RIDGE
DRAINAGE: YAKIMA RIVER
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7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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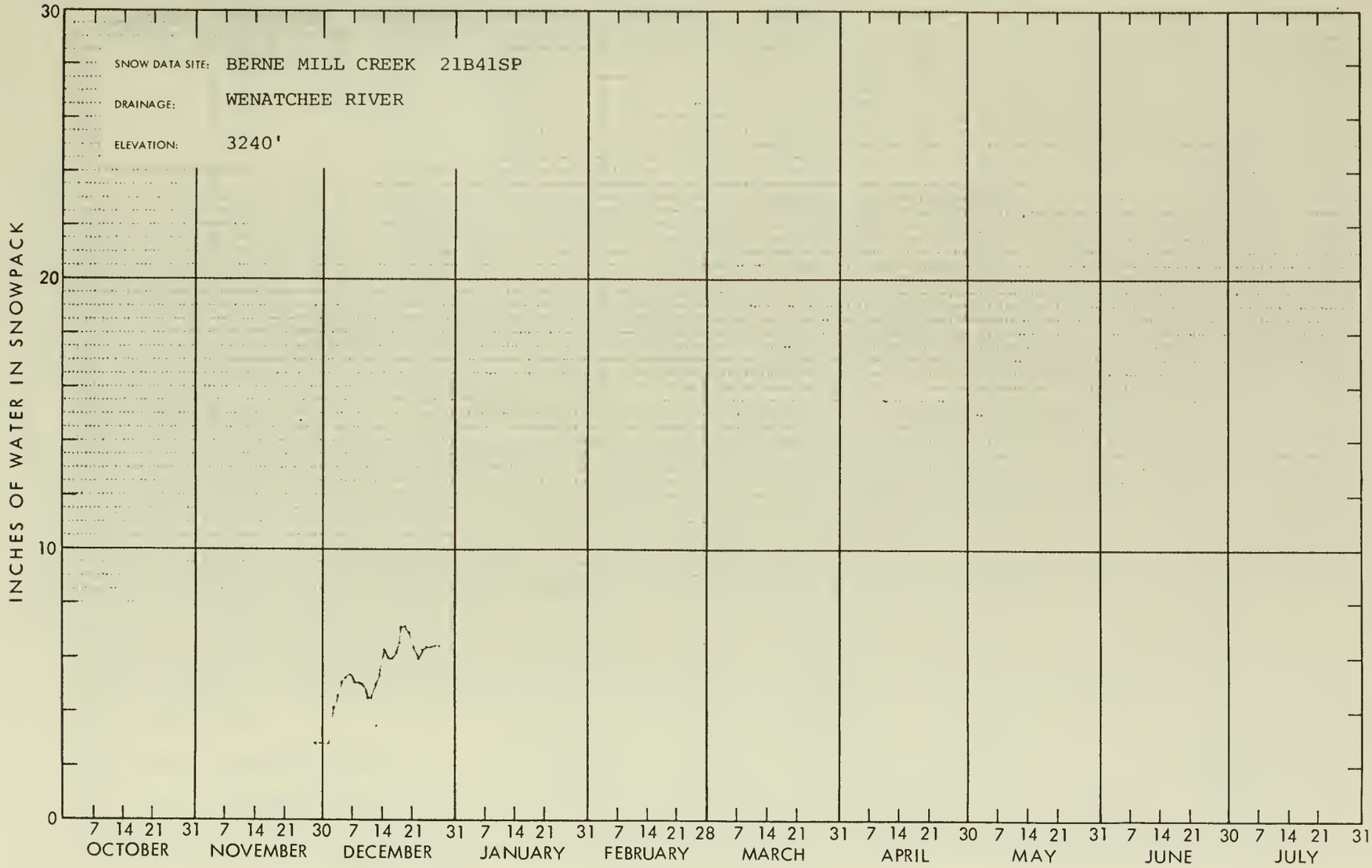
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DRAINAGE: WENATCHEE RIVER
ELEVATION: 3240'
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7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 31 7 14 21 28 7 14 21 31 7 14 21 30 7 14 21 31 7 14 21 30 7 14 21 31
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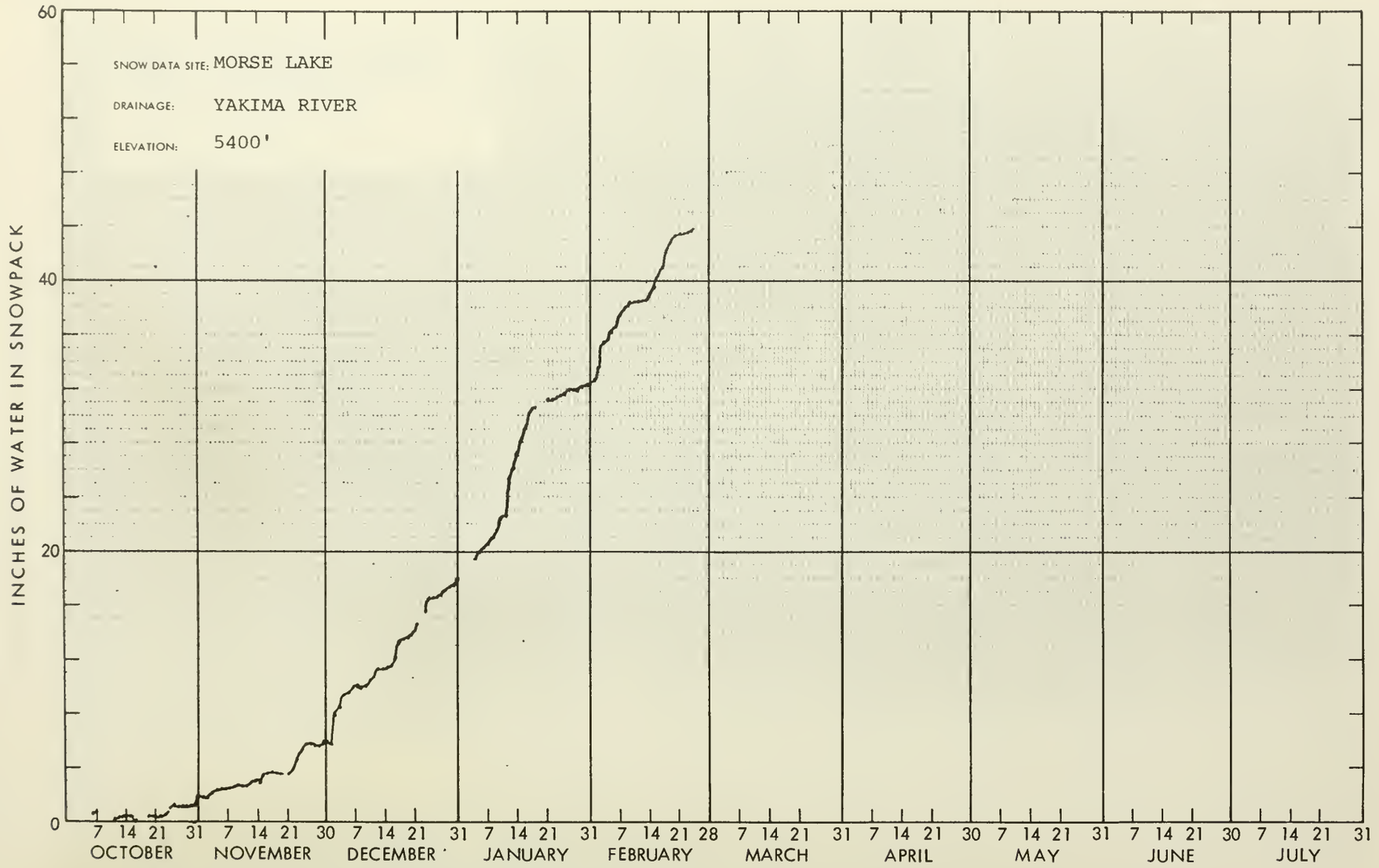
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DRAINAGE: YAKIMA RIVER
ELEVATION: 5400'
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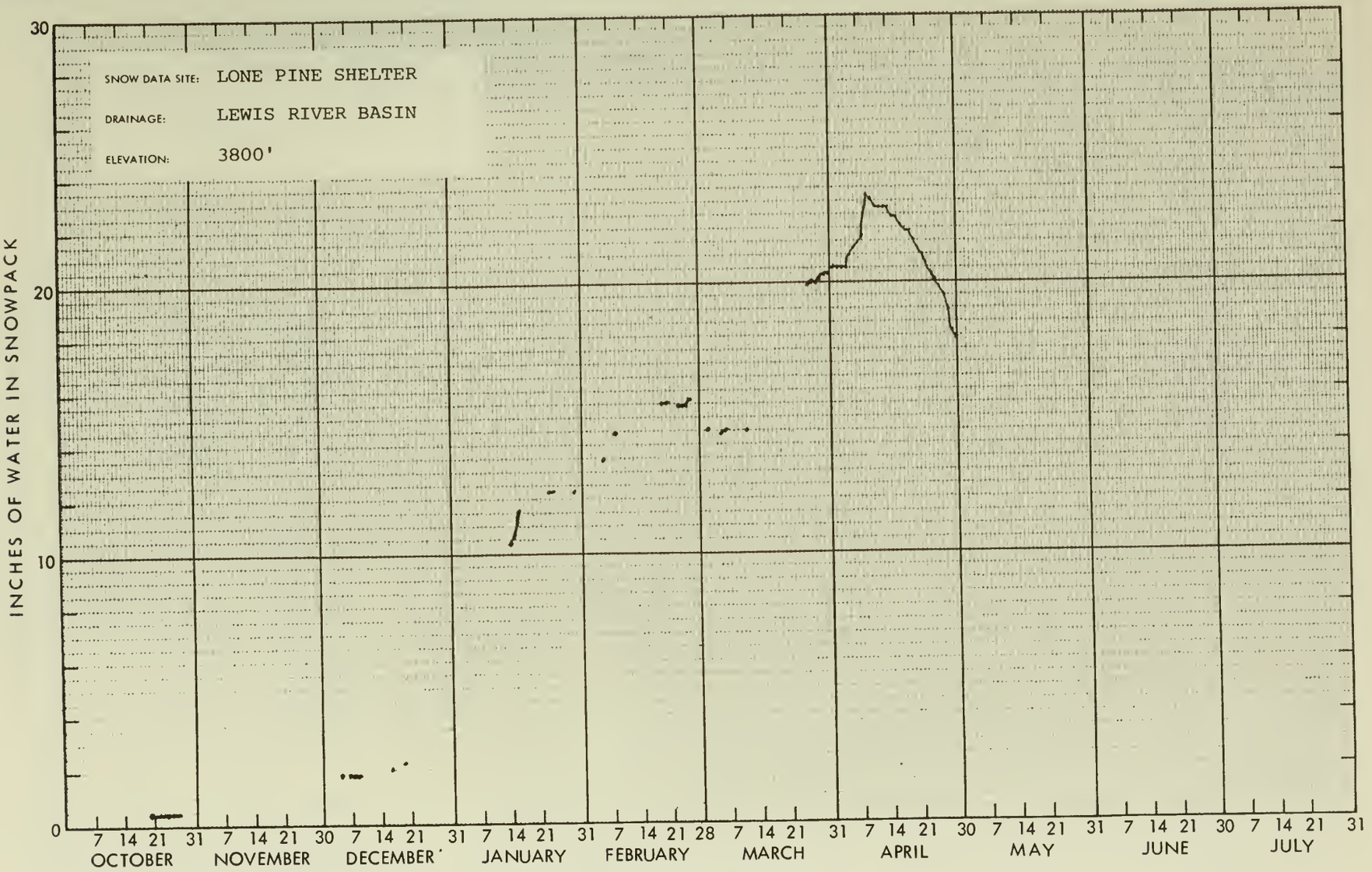
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DRAINAGE: LEWIS RIVER BASIN
ELEVATION: 3800'
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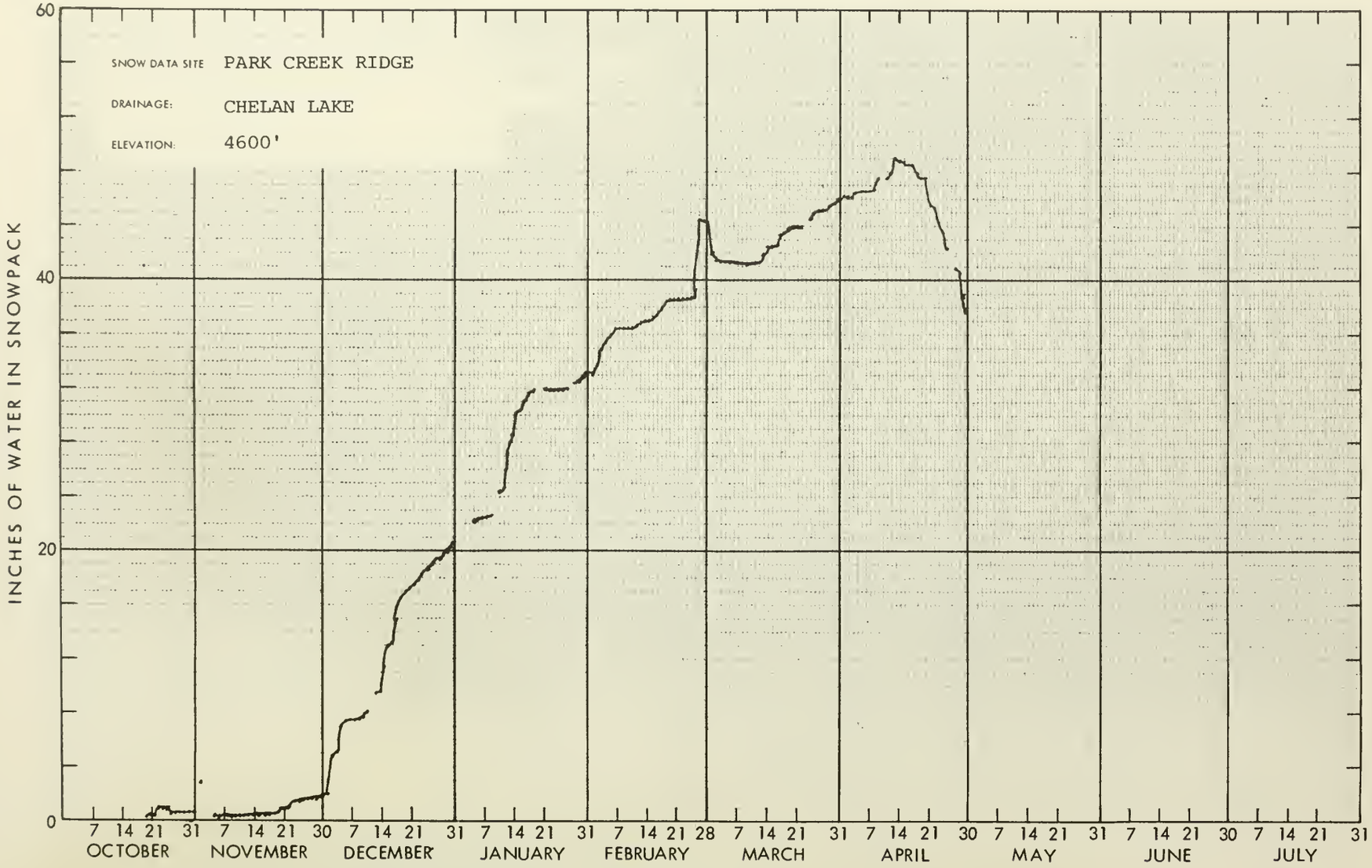
SNOW DATA SITE PARK CREEK RIDGE
DRAINAGE: CHELAN LAKE
ELEVATION: 4600'
INCHES OF WATER IN SNOWPACK
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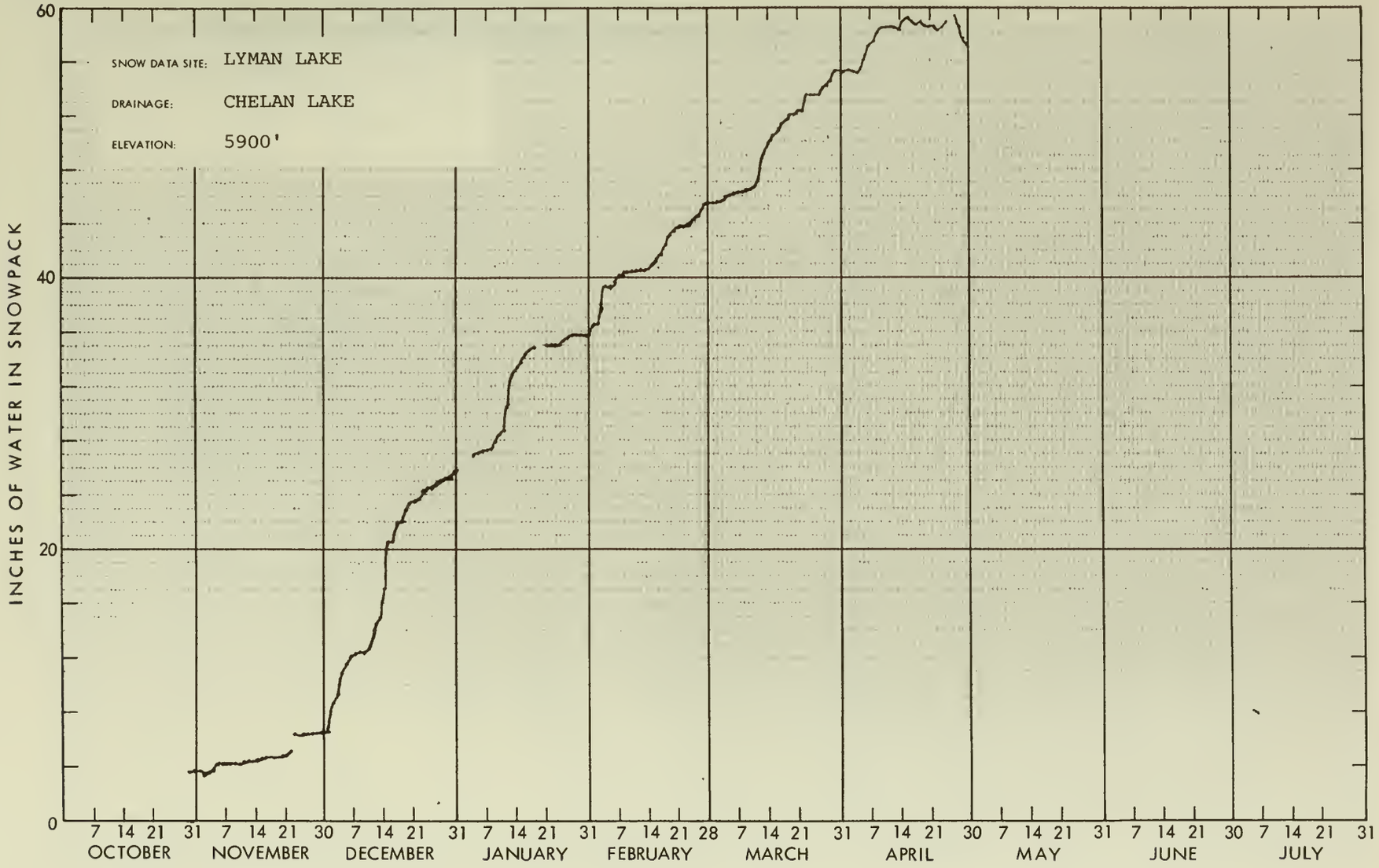
SNOW DATA SITE: LYMAN LAKE
DRAINAGE: CHELAN LAKE
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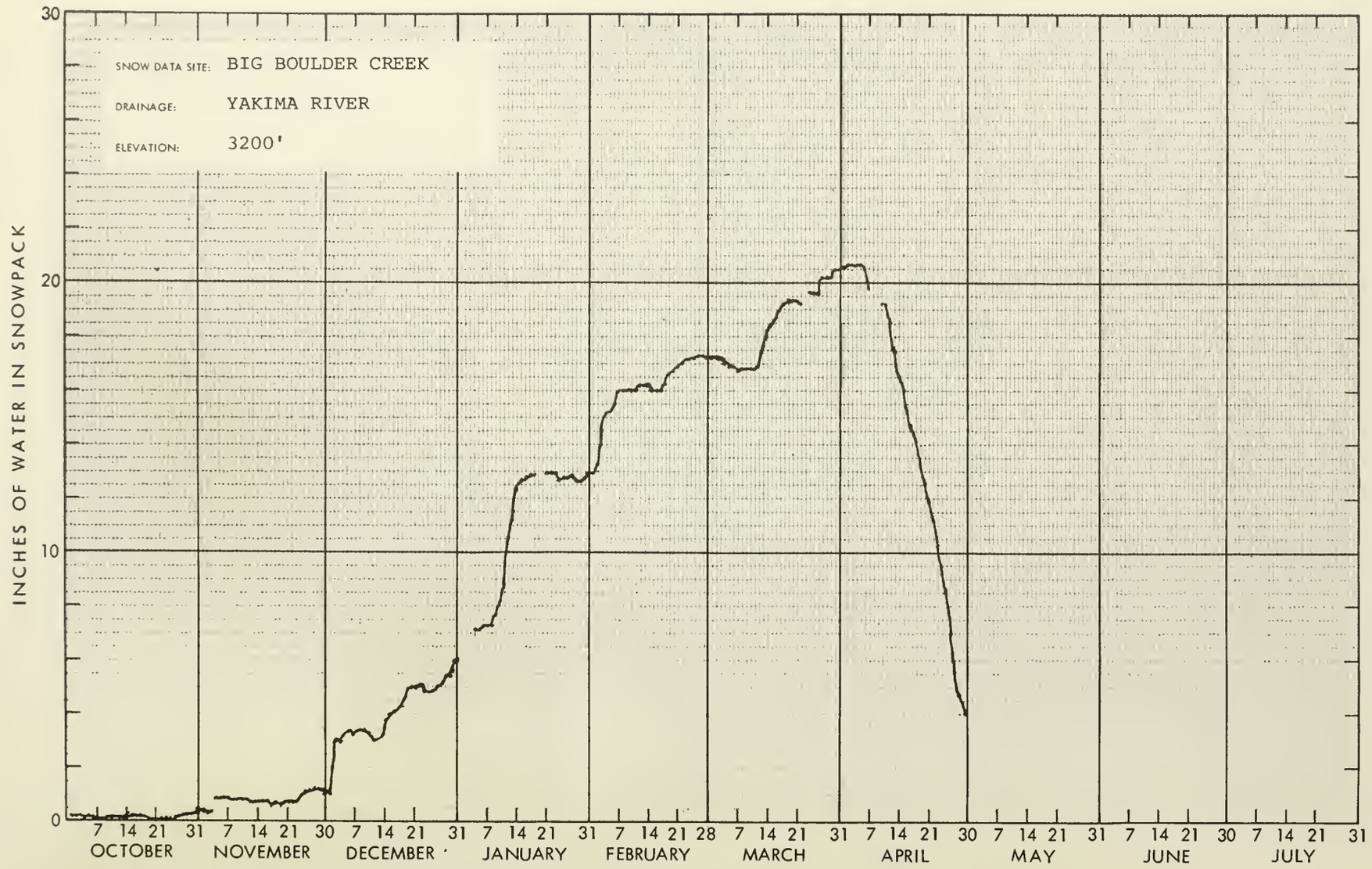
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DRAINAGE: YAKIMA RIVER
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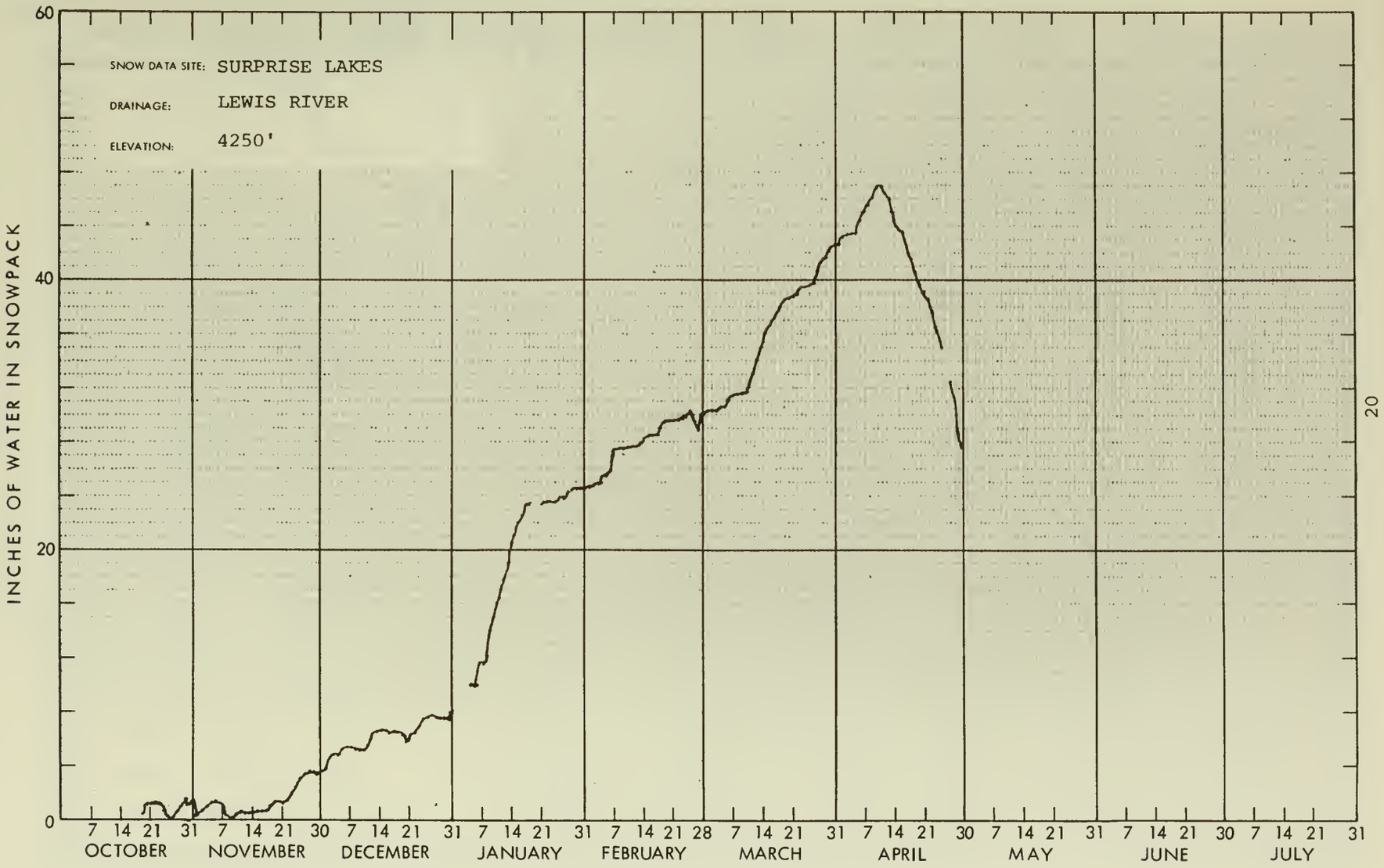
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DRAINAGE: LEWIS RIVER
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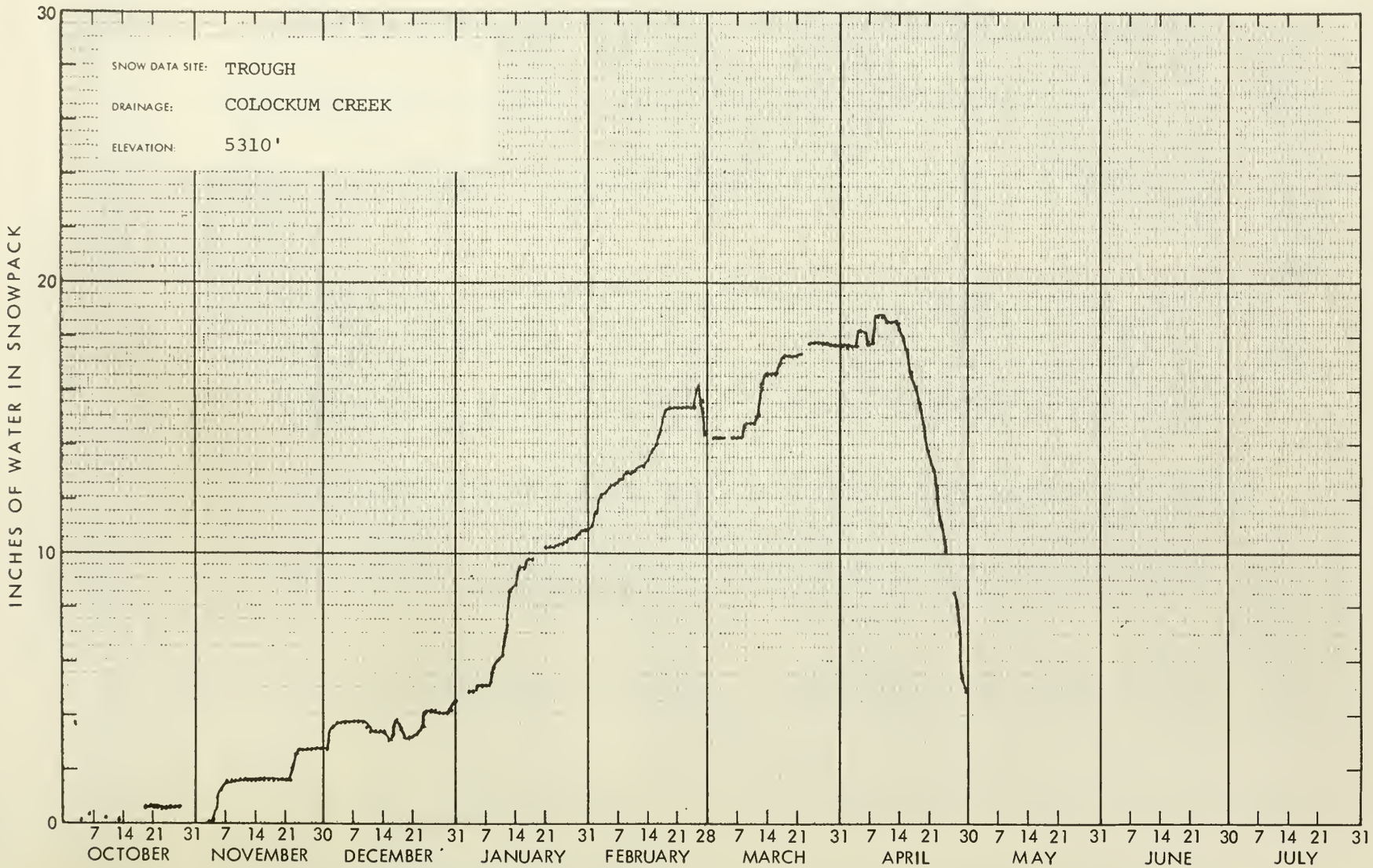
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DRAINAGE: COLOCKUM CREEK
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SNOW DATA TO MAY 1, 1980 - APPENDIX 1

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average #
UPPER COLUMBIA DRAINAGE							
PEND OREILLE RIVER							
Baree Creek	15B11	5500	5/1	55	27.3	42.0	49.5
Baree Midway	15B16	4600	5/1	43	18.7	32.0	35.1
Baree Trail	15B15	3800	5/1	0	0.0	0.0	1.8
Benton Meadow	16A02	2344	4/29	0	0.0	0.0	0.0
Benton Spring	16A03	4900	4/29	9	4.0	16.7	16.7
Boyer Mountain	17A02	5250	4/28	38	17.2	21.4	25.2
Brush Creek Timber	14A13	5000	4/28	0	0.0	10.4	8.1
Bunchgrass Meadow	17A01	5000	5/1	38	18.5	22.7	30.0
Heart Lake Trail	14C10	4800	4/27	28	11.4	21.3	19.1
Hoodoo Basin	15C10	6000	4/27	89	44.0	49.6	55.6
Hoodoo Creek	15C01	5900	4/27	81	39.8	49.3	52.0
Lookout	15B02	5250	4/14	76	29.2	35.3	38.6
			4/30	40	17.4	28.2	35.4
Nelson	19-Can	3050	4/30	4	2.0	8.1	7.2*
Schweitzer Bowl	16A06	4500	5/1	23	10.7	21.3	26.8
Schweitzer Ridge	16A05	6100	5/1	80	42.8	37.1	47.5
Smith Creek	16A01	4800	4/29	71	32.5	31.4	47.4
Winchester Creek	17A03	2970	4/28	0	0.0	1.0	1.9
KETTLE RIVER							
Barnes Creek	90-Can	5300	4/29	23	8.3	18.5	21.1*
Big White Mtn.	154-Can	5500	4/30	30	12.0	17.2	21.3*
Bluejoint Mtn.	244-Can	7500	4/29	48	20.7	22.6	30.3*
Boulder Road	18A02	1450	4/28	0	0.0	0.0	0.0
Butte Creek	18A03	4070	4/28	10	3.0	4.0	6.0
Cabin Creek	18A08	3170	4/28	0	0.0	0.0	1.8
Carmi	126-Can	4100	4/30	0	0.0	0.0	1.9*
Farron # 1	17-Can	4000	4/29	13	5.7	5.2	8.4*
Farron # 2	243-Can	4000	4/29	16	6.1	6.9	9.3*
Goat Creek	18A04	3595	4/28	0	0.0	0.0	0.0
Graystoke Lake	5-Can	5950	4/29	22	7.8	15.6	21.8*
Monashee Pass	48A-Can	4500	4/29	8.7	2.2	11.7	13.2*
Old Glory Mountain	42-Can	7000	4/26	64	26.8	20.4	29.5*
Snow Caps Creek	18A05	2150	4/28	0	0.0	0.0	0.0
Snow Caps Trail	18A06	2720	4/28	0	0.0	0.0	0.0
Summit G.S.	18A07	4600	4/28	1.5	0.6	2.1	6.3
Trapping Creek Lower	166-Can	3050		Not Measured		-	0.0*
Trapping Creek Upper	165-Can	4450	4/30	0	0.0	4.6	6.2*

\# Average based on 1963-77 average
* Average for years of record

USDA SCS-PORTLAND OREGON 1973

WSFB-X4-L

SNOW DATA TO MAY 1, 1980 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
SPOKANE RIVER							
Above Burke	15B08	6100	4/30	15	6.3	18.5	19.7
Copper Ridge	16B02	4800		Not Measured		23.5	25.7
Forty-nine Meadows	15B03	4840	5/1	19	7.2	22.6	26.9
Granite Peak	15B13A	6000	5/1	72	28.5	38.1	47.6
Lookout	15B02	5250	4/14	76	29.2	35.3	38.6
			4/30	40	17.4	28.2	35.4
Lost Lake	15B14A	6000	5/1	85	34.7	47.4	62.5
Lower Sands Creek	16B01	3400	4/28	18	6.4	18.3	18.3
Sherwin	16C01	3200	4/25	0	0.0	7.0	7.2
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	5/1	0	0.0	0.4	1.7*
Blackwall Mountain	100-Can	6250	4/29	59	25.0	22.8	37.2*
Bouleau Lake	234-Can	4580	4/27	20	6.5	10.7	12.2*
Brenda Mine	193-Can	4800	4/28	10	3.1	8.5	10.4*
Brookmere	27-Can	3200	4/29	8	2.7	2.8	5.7*
Enderby	130-Can	6250	4/29	65	31.9	30.0	42.7*
Esperon Creek Lower	164-Can	4400	4/27	8	2.4	5.3	9.9*
Esperon Creek Middle	163-Can	4700	4/27	12	4.3	9.1	13.2*
Esperon Creek Upper	162-Can	5400	4/27	22	8.8	12.7	19.4*
Graystoke Lake	5-Can	5950	4/29	22	7.8	15.6	21.8*
Hamilton Hill	107-Can	4900	4/28	24	9.1	10.1	13.1*
Harts Pass	20A05A	6500	4/29	84	36.2	33.1	51.5
Isintok Lake	152-Can	5510	4/27	8	2.4	3.7	7.3*
Lost Horse Mountain	105-Can	6300	5/1	15	5.0	8.1	10.7*
Loup Loup	19A07	4650	4/29	1.7	0.6	0.0	6.1
McCulloch	4-Can	4200	4/28	0	0.0	0.7	2.8*
Missezula Mountain	106-Can	5100	4/27	16	5.9	6.1	5.9*
Mission Creek	5A-Can	6000	4/29	31	11.9	17.2	21.9*
Monashee Pass	48A-Can	4500	4/29	8.7	2.2	11.7	13.2*
Mount Kobau	156-Can	5950	4/30	23	8.2	5.0	13.5*
Mutton Creek No. 1	19A01	5700	4/25	19	6.1	0.4	11.3
Mutton Creek No. 2 SP	19A11SP	6000	4/25		6.6	2.8	13.9
New Copper Mountain	46A-Can	4300	4/29	0	0.0	0.0	1.2*
New Penticton Res. #2	183-Can	5225	5/1	6	1.9	4.8	8.7*
Nickel Plate Mtn.	47-Can	6200	4/30	12	4.2	6.5	8.1*
Oyama Lake	203-Can	4400	4/30	0	0.0	2.0	3.6*
Postill Lake	55-Can	4500	4/28	1.6	0.5	4.5	6.8*
Quartette Lake	34-Can	4000	4/29	19	7.9	9.0	10.8*
Rusty Creek	19A03	4000	4/25	0	0.0	0.0	0.8
Salmon Meadows	19A02	4500	4/25	12	4.0	0.0	6.2

\# Average based on 1963-77 average
* Average for years of record

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MAY 1, 1980 - APPENDIX 3

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average #
OKANOGAN RIVER (Cont.)							
Silver Star Mountain	99-Can	6050	4/27	47	20.2	21.0	28.2*
Summerland Reservoir	3A-Can	4200	4/27	8.7	2.8	6.8	6.9*
Trout Creek	3-Can	4700	4/30	0	0.0	3.8	5.3*
Vaseux Creek	233-Can	4600	4/27	0	0.0	0.3	2.6*
White Rocks Mountain	70-Can	6000	4/30	24	9.6	19.4	26.7*
METHOW RIVER							
Harts Pass	20A05A	6500	4/29	84	36.2	33.1	51.5
Mutton Creek No. 1	19A01	5700	4/25	19	6.1	0.4	11.3
Mutton Creek No. 2 SP	19A11	6000	4/25		6.6	2.8	13.9
Rusty Creek	19A03	4000	4/25	0	0.0	0.0	0.8
Salmon Meadows	19A02	4500	4/25	12	4.0	0.0	6.2
CHELAN LAKE BASIN							
Lyman Lake	20A23A	5900		Late Report			82.0
Park Creek Ridge	20A12A	4600		Late Report			31.7
Rainy Pass	20A09	4780	4/29	65	27.6	29.4	47.5
ENTIAT RIVER							
Blue Creek G.S.	20B28a	5425	5/1	58	25.5	21.0	39.9
Brief	20B19	1600	4/26	0	0.0	0.0	0.0
Entiat Meadows +	20A33a	4540	5/1	74	32.5	-	35.7
Entiat River Trail +	20A34a	3325		Not Measured		0.0	3.0
Four Mile Ridge +	20B27a	6800	5/1	60	26.4	20.2	38.5
Fox Camp +	20A36a	6510	5/1	134	58.9	38.6	64.1
Pope Ridge	20B20	3540	5/1	18	7.6	5.7	9.8
Pugh Ridge +	20A32a	6725	5/1	61	26.8	23.5	30.8
Shady Pass	20A37	6200	5/1	52	23.0	16.7	31.6
Snow Brushy +	20A35a	3910	5/1	21	8.8	26.2	29.4
Tommy Creek +	20B21a	4900	5/1	16	7.0	9.2	21.7
WENATCHEE RIVER							
Berne-Mill Creek	21B23	2925	4/29	30	14.2	23.1	23.9
Berne-Mill Creek New SP	21B41	3240	4/29	20	9.9	15.4	19.8
Blewett Pass No. 2	20B02	4270	4/15	27	11.2	12.1	15.3
			4/25	8.8	4.6	9.4	10.8
Chiwaukum G.S.	20B16	1810	4/29	0	0.0	0.3	1.5
Fish Lake	21B04	3371	4/30	33	15.6	21.2	28.0
Lake Wenatchee	20B05	1970	4/29	0	0.0	3.7	2.7
Lyman Lake	20A23A	5900		Late Report		-	-

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MAY 1, 1980 - APPENDIX 4

SNOW

DRAINAGE BASIN and/or SNOW COURSE NAME	Number	Elevation	THIS YEAR Date of Survey	Snow Depth (Inches)	Water Content (Inches)	PAST RECORD Water Content (inches) Last Year	Average#
WENATCHEE RIVER (Cont.)							
Merritt	20B18	2140	4/29	0	0.0	6.6	5.5
Stevens Pass	21B01	4070	4/15	103	44.5	46.1	56.3
			4/29	84	39.7	43.0	57.5
Stevens Pass Sand Shed	21B45	3700	4/15	68	29.6	32.4	38.0
			4/29	41	20.4	29.6	37.3
SQUILCHUCK CREEK							
Beehive Springs	20B03	4400	4/28	0	0.0	1.3	2.2
Scout-A-Vista	20B04	3400	4/28	0	0.0	0.0	0.3
STEMILT CREEK							
Jump-Off	20B08	4450	4/29	0	0.0	3.0	3.3
Stemilt Slide	20B06	5000	4/28	6	2.4	6.3	7.8
Upper Wheeler	20B07	4400	4/28	0	0.0	0.0	1.3
COLOCKUM CREEK							
Colockum Creek Upper	20B22	5300	4/29	0	0.0	5.4	10.8
Colockum Creek Lower	20B23	4300	4/29	0	0.0	2.2	2.8
Trough # 2	20B25SP	5310	4/29	16	7.5	7.5	New
YAKIMA RIVER							
Ahtanum R.S.	21C11	3100	4/22	0	0.0	-	-
Big Boulder Creek	21B09	3200	4/30	0	0.0	5.6	10.9
Blewett Pass No. 2	20B02	4270	4/15	27	11.2	12.1	15.3
			4/25	8.8	4.6	9.4	10.8
Bumping Lake	21C08	3450	4/11	43	18.0	10.4	13.8
			4/29	15	6.7	3.1	10.2
Bumping Lake New	21C36	3400	4/11	48	20.0	13.8	19.6
			4/29	22	10.5	6.8	15.2
Cayuse Pass	21C06	5300	5/1	146	65.0	-	98.1
Corral Pass	21B13	6000	4/30	63	28.0	36.8	42.6
Fish Lake	21B04	3371	4/30	33	15.6	21.2	28.0
Joe Lake +	21B46a	4624	4/30	117	56.2	70.4	67.0
Lake Cle Elum	21B14M	2200		Not Measured		0.0	0.0
Lemah Creek +	21B47a	3327	4/30	45	21.6	35.9	40.3
Morse Lake	21C17	5400	4/29	108	48.5	48.9	61.9
Olallie Meadows	21B02	3625	4/15	76	35.2	-	55.1
			4/28	54	26.6	44.0	53.4
Stampede Pass SP	21B10	3860	4/13	85	42.4	46.4	42.9
			5/1	52	27.8	39.7	43.4

\# Average based on 1963-77 average
\+ Snow water equivalent estimated from aerial stadia observation

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SNOW DATA TO MAY 1, 1980 - APPENDIX 5

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average#
YAKIMA RIVER (Cont.)							
Tunnel Avenue	21B08	2450	4/14	38	16.6	17.6	23.9
			5/1	11	5.4	11.8	17.5
Van Epps Pass +	20B26a	5925	4/30	101	48.5	43.7	56.1
Waptus Lake +	21B49a	3024	4/30	45	21.6	27.6	38.9
White Pass (E. Side)	21C28	4500	4/10	71	25.6	22.5	26.9
			4/28	49	21.6	22.3	27.6
LOWER COLUMBIA DRAINAGE							
ASOTIN CREEK							
Spruce Springs	17C04	5700	4/28	30	14.7	26.7	24.8
MILL CREEK							
Tollgate	18D3M	5070	4/30	12	5.7	30.4	20.1
KLICKITAT RIVER							
Satus Pass	20D01	4030		Not Measured		-	3.9
LEWIS RIVER							
Lone Pine Shelter	21C26	3800	4/10	93	36.5	-	45.6
			4/30	57	24.2	-	48.0
Marble Mountain	22C05	3200	4/10	Not Measured			38.9
			4/30	0	0.0	-	33.6
Plains of Abraham	22C01	4400	4/10	148	73.0	-	57.2
			4/30	72	41.0	-	77.4
Spencer Meadow	21C20	3400	4/10	30	12.5	-	27.1
			4/30	0	0.0	-	19.0
Surprise Lakes	21C13	4250	4/10	109	41.0	-	53.7
			4/30	46	22.5	-	53.4
Table Mountain	21C24	4200	4/10	108	43.0	-	50.7
			4/30	49	23.5	-	49.2
COWLITZ RIVER							
Cayuse Pass	21C06	5300	5/1	146	65.0	-	98.1
White Pass (E. Side)	21C28	4500	4/10	71	25.6	22.5	26.9
			4/28	49	21.5	22.3	27.6

\# Average based on 1963-77 average
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MAY 1, 1980 - APPENDIX 6

SNOW

DRAINAGE BASIN and/or SNOW COURSE			THIS YEAR			PAST RECORD	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches) Last Year	Water Content (inches) Average †
PUGET SOUND DRAINAGE							
WHITE RIVER							
Cayuse Pass	21C06	5300	5/1	146	65.0	-	98.1
Corral Pass	21B13	6000	4/30	63	28.0	36.8	42.6
Morse Lake	21C17	5400	4/29	108	48.5	58.9	61.9
GREEN RIVER							
Cougar Mountain SP	21B42SP	3200	4/30	0	0.0	14.2	20.7
Grass Mtn. No. 2	21B27	2900	4/30	4	2.1	-	-
Lester Creek	21B29	3100	4/30	35	14.5	-	-
Lynn Lake	21B50	4000	4/30	7.7	3.2	-	-
Sawmill Ridge	21B31	4700	4/30	52	22.6	-	-
Snowshoe Butte SP	21B43SP	5000	4/30	91	42.9	58.2	67.7
Stampede Pass SP	21B10	3860	4/14	85	42.4	46.4	42.9
			5/1	52	27.8	39.7	43.4
Twin Camp	21B30	4100	4/30	27	13.5	-	-
SNOQUALMIE RIVER							
Olallie Meadows	21B02	3625	4/15	76	35.2	-	55.1
			4/28	54	26.6	44.0	53.4
SKYKOMISH RIVER							
Stevens Pass	21B01	4070	4/15	103	44.5	46.1	56.3
			4/29	84	39.7	43.0	57.5
Stevens Pass Sand Shed	21B45	3700	4/15	68	29.6	32.4	38.0
			4/29	41	20.4	29.6	37.3
SKAGIT RIVER							
Beaver Creek Trail	21A04	2200	4/28	0	0.0	1.1	7.3
Beaver Pass	21A01	3680	4/28	46	19.2	21.4	34.5
Brown Top Ridge +	21A28a	6000	4/28	112	50.2	43.4	74.7
Devils Park	20A04	5900	4/29	81	34.6	33.8	50.4
Freezeout Creek Trail	20A01	3500	4/28	4.6	1.7	6.3	10.2
Freezeout Meadows New	20A38	5000	4/28	48	19.2	37.2	40.3
Granite Creek	21A29A	3500	4/29	9.2	2.9	9.6	18.2
Harts Pass	20A05A	6500	4/29	84	36.2	33.1	51.5
Klesilkwa	35B-Can	3700	4/30	0	0.0	6.4	8.2*
Lyman Lake	20A23A	5900		Late Report		-	82.0
Meadow Cabins	20A08	1900	4/29	0	0.0	2.5	1.9

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO MAY 1, 1980 - APPENDIX 7

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
SKAGIT RIVER (Cont.)							
New Hozomeen Lake	21A30	2800	4/28	0	0.0	4.2	10.5
New Tashme	26A-Can	2500	4/30	0	0.0	0.0	3.5*
Quartette Lakes	34-Can	4000	4/29	19	7.9	9.1	10.8*
Rainy Pass	20A09	4780	4/29	65	27.6	29.4	45.7
Thunder Basin	20A07	4200	4/29	27	10.0	19.6	26.2
BAKER RIVER							
Dock Butte	21A11A	3800	5/1	108	52.0	53.0	79.3
Easy Pass	21A07A	5200	5/1	132	63.0	54.0	97.6
Jasper Pass	21A06A	5400	5/1	148	71.0	64.0	99.8
Marten Lake	21A09A	3600	5/1	110	53.0	62.0	87.0
Mount Blum +	21A18a	5800	4/30	119	57.0	50.0	76.1
Panorama New	21A26	4300	5/2	98	51.0	58.0	88.3
Rocky Creek	21A12A	2100	5/1	0	0.0	12.0	28.4
Schreibers Meadow	21A10A	3400	5/1	62	30.0	38.0	70.5
S. F. Thunder Creek	21A14A	2200	5/1	0	0.0	0.0	2.0
Watson Lakes	21A08A	4500	5/1	94	45.0	61.0	77.7
NOOKSACK RIVER							
Glacier Creek	21A23	3700	4/30	Trace	0.0	21.6	27.1
Panorama New	21A26	4300	5/2	98	51.0	58.0	88.3
OLYMPIC PENINSULA							
DUNGENESS RIVER							
Deer Park	23B04	5200	4/28	33	14.3	21.9	24.2
MORSE CREEK							
Cox Valley	23B14	4500	4/26	63	27.9	35.5	45.3
ELWHA RIVER							
Hurricane	23B03	4500	4/25	28	10.1	16.1	28.2

\# Average based on 1963-77 average
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

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Water Supply Outlook For Washington

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AS OF
JUNE 1, 1980

USDA SCS PORTLAND OR 1979

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season will interact with a resultant average effect on runoff. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and woter equivolent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at eoch location. The average of these are reported os snow depth and water equivalent. These measurements are repeated in the same location near the same dates eoch year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1900 snow courses in Western United States ond in the Columbio Basin in British Columbia. Networks of automatic snow water equivalent and related data sensing devices, along with radio telemetry are expanding and will provide a continuous record of snow water and other parameters at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data on reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

COVER PHOTO: THE SNOTEL PROJECT CENTRAL COMPUTER FACILITIES IN PORTLAND, OREGON. THE TERMINAL, PRINTER, COMPUTER AND TAPE DRIVES HAVE NOT COMPLETELY REPLACED THE SNOW SAMPLING TUBES SEEN IN THE FOREGROUND.

PUBLISHED BY SOIL CONSERVATION SERVICE

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with stote water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, West Technical Service Center, Room 510, 511 N.W. Broadway, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

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Alaska	Room 129, 2221 East Northern Lights Blvd., Anchorage, Alaska 99504
Arizona	Room 3008, Federal Building, 230 N. First Ave., Phoenix, Arizona 85025
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Washington	360 U. S. Court House, Spokane, Washington 99201
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Water Supply Outlook reports prepared by other agencies include a report for California by the Snow Surveys Branch, California Department of Water Resources, P.O. Box 388, Sacramento, California 95802 --- for British Columbia by the Ministry of the Environment, Water Investigations Branch, Parliament Buildings, Victoria, British Columbia V8V 1X5 --- for Yukon Territory by the Department of Indian and Northern Affairs, Northern Operations Branch, 200 Range Road, Whitehorse, Yukon Territory Y1A 3V1 --- and for Alberta, Saskatchewan, and N.W.T. by the Water Survey of Canada, Inland Waters Branch, 110-12 Avenue S.W, Calgary, Alberta T3C 1A6.

WATER SUPPLY OUTLOOK FOR WASHINGTON

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Issued by

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360 U.S. COURTHOUSE
SPOKANE, WASHINGTON 99201

WATER SUPPLY OUTLOOK

State of Washington

June 1, 1980

We can't blame Mount St. Helens for melting our snow because it was mostly gone before she blew. Due to the warm weather in April and the early part of May, the bulk of the snow was gone by May 15, leaving very few courses to be measured as of June 1. The few courses that did have snow as of June 1, showed an improvement, percentagewise, over the May 15 measuremnts. This was due to the cooler weather during the latter part of May. Percentages of normal for May 15 ranged from 11 to 40 percent, while on June 1, they ranged from 40 to 76 percent. However, this early snow melt was not all lost. Reservoirs in the state are in excellent shape. Most reservoirs are filled to near capacity and with normal weather conditions, water should be ample. Rainfall over the state during May was an average of 61 percent above normal. Only two drainage divisions, the Northwest and Southwest Slopes of the Cascades, were below normal. The divisions ranged from 45 percent below average to 137 percent above. Streamflows, percentagewise, were considerably less than last month, but most of them are still within normal or above range; the lowest being the Green River with 43 percent below normal and the highest, the Columbia at Birchbank with 43 percent above normal.

THIS IS THE LAST WATER SUPPLY OUTLOOK REPORT FOR 1980. IF YOU WISH TO RECEIVE THESE REPORTS NEXT YEAR, PLEASE RETURN THE BACK COVER OF THE MAY 1 REPORT IF YOU HAVE NOT ALREADY DONE SO.

SNOW COVER

On May 15, in the Pend Oreille Drainage, five of the six snow courses scheduled had snow averaging 34 percent of normal. By June 1, five courses normally have snow. Three of them had an average of 76 percent of their normal snow and the other two were bare. The Kettle River Drainage had no snow at all as of May 15. Only one course was measured in the Spokane Drainage and the snow there was 8 percent of normal on May 15 and gone by June 1. In the Okanogan Drainage, of 19 courses that were measured on May 15, only 4 had any snow and they averaged 36 percent of normal. Normally, seven snow courses scheduled to be measured on June 1 have snow. This year, only two of them had any snow left and they averaged 52 percent of normal. In the Chelan Lake Basin, aerial markers were looked at. There were no normals to compare, but the estimated snow water equivalent appears to be about the same as last year at this time. Only two courses were measured in the Wenatchee Drainage. They averaged 29 percent of normal on May 15, and by June 1, the snow at the lower elevation was gone and at the higher elevation, it was 40 percent of normal. Only two courses that were measured in the Yakima Drainage had snow as of May 15, and they averaged 25 percent of normal and both were bare by June 1. Last month, we mentioned a point of interest about the Plains of Abraham Snow Course on the northeast slope of Mount St. Helens. This month, we are assuming that the snow course is gone.

RESERVOIRS

Reservoirs appear to be in excellent shape. The early snow melt and above average amounts of rain have filled most reservoirs to near capacity and, in most cases, considerably above normal. It is reported that the Yakima Reservoir situation is ample at this time and with normal weather conditions, there should be no shortages. The two small reservoirs in the Okanogan Irrigation District are filled to capacity. F. D. Roosevelt Lake is nearly full and has 197 percent of normal water in storage. Banks Lake is filled to 95 percent of capacity and has 167 percent of normal water. The three power reservoirs in the Puget Sound area are in good shape. Ross Reservoir is above normal for this time of year and it is expected that all three reservoirs will be filled to near capacity by July 1. Lake Chelan is being controlled to keep the water from spilling, but is expected to fill by the middle of June.

PRECIPITATION

Rainfall over most of the state and tributary basins was much above normal during the month of May, ranging from 38 percent above in the Columbia above Castlegar Division to 137 percent above in the Central Washington Division. Only on the Northwestern and Southwestern Slopes of the Cascades was rainfall below normal, and it was 84 and 55 percent of normal, respectively. When combined into the Spring period of April and May, the above normal range was from 12 percent above in the Columbia at Castlegar to 82 percent above in Notheastern Washington with the Northwest Slopes of the Cascades at 78 percent and the Southwest Slopes at 76 percent of normal.

STREAMFLOW

Streamflows were considerably lower, percentagewise, than reported last month. Probably, because most of the snow melted and ran off during the warm temperatures in April and the cooler temperatures in May kept what little snow was left from melting so fast. Above normal flows were reported at all stations on the Columbia - from 16 to 43 percent above average; on the Kettle, 50 percent above; Similkameen, 41 percent above; Okanogan, 32 percent above; Chelan, 24 percent above; Wenatchee, 15 percent above; and Klickitat, 1 percent above. The rest of the flows were subnormal, ranging from 43 percent below average on the Green River to just 1 percent below on the Yakima. The Cowlitz at Castle Rock was 67 percent of normal, which accounts for only the first 17 days of the month. The gage was destroyed on May 18 by flood waters caused by the eruption of Mount St. Helens. Therefore, there is no record after May 18, and will be none until the gage is replaced.

Waters Branch,

RESERVOIR STORAGE - 1000 Acre Feet

BASIN OR STREAM	RESERVOIR	USABLE 1/ CAPACITY	Measured June 1 1980	1979	1078	Normal*
		COLUMBIA				
Spokane	Coeur d'Alene Lake	225.1	242.5	236.2	190.0	225.0
Columbia	Franklin D. Roosevelt Lake	5232.0	5058.7	3433.6	2211.4	2565.6
Columbia	Banks Lake	714.9	680.2	456.6	527.9	406.2
Okanogan	Conconully Reservoir	13.0	13.0	10.5	9.6	9.1
Okanogan	Conconully (Salmon) Lake	10.5	10.5	8.1	10.5	9.4
Chelan	Lake Chelan	676.1	570.6	437.3	470.3	450.6
		YAKIMA				
Yakima	Keechelus Lake	157.8	147.1	157.6	158.9	139.6
Kachess	Kachess Lake	239.0	163.0	236.9	242.2	217.1
Cle Elum	Lake Cle Elum	436.9	436.2	338.0	441.2	367.9
Bumping	Bumping Lake	33.7	33.4	35.1	34.7	25.4
Tieton	Rimrock Lake	198.0	198.8	171.0	199.0	160.2
		PUGET SOUND				
Skagit	Ross Reservoir	1404.1	1129.5	1107.7	1068.0	1033.9
Skagit	Diablo Reservoir	90.6	85.1	87.2	84.9	86.1
Skagit	Gorge Reservoir	9.8	7.2	8.1	8.2	8.3

1/ Based on Active Storage

* 15-yr. Average 1963-1977

PRECIPITATION 1/

Division Average Observations and Departures

Drainage Divisions	FALL Sept-Oct 1979 2/ Observed	FALL Departure	WINTER Nov.-1979--Mar.-1980 Observed	WINTER Departure	SPRING Apr-May 1980 2/ Observed	SPRING Departure
Columbia in Canada	4.44	-0.58	13.78	-1.73	3.90	+0.43
Pend Oreille - Spokane	3.23	-0.81	13.28	-4.27	5.91	+2.06
Northeastern Washington	2.53	+0.05	9.70	+0.30	5.71	+2.50
Southeastern Washington	2.53	+0.02	10.79	+0.36	3.30	+2.65
Central Washington	1.55	+0.58	6.84	+1.56	2.38	+1.03
North Central Washington	2.22	+0.63	6.05	-0.49	3.07	+1.30
Northwest Slope Cascades	10.68	-2.53	51.07	-4.32	8.02	-2.38
Southwest Slope Cascades	9.66	+0.98	35.13	-6.51	5.90	-1.40

Northeastern Washington - Lower Spokane, Colville, Sanpoil and Lower Kettle Drainages.

Southeastern Washington - Touchet, Tucannon and Palouse Drainages.

Central Washington - Yakima, Wenatchee and Chelan Drainages.

North Central Washington - Methow and Okanogan Drainages.

Northwest Slope Cascades - Puget Sound Drainages.

Southwest Slope Cascades - Lower Columbia Drainages.

1/ - Preliminary analysis by National Weather Service from data furnished by Meteorological Services of Canada and the National Weather Service.

2/ - Departure from 15-year (1958-72) drainage division average.

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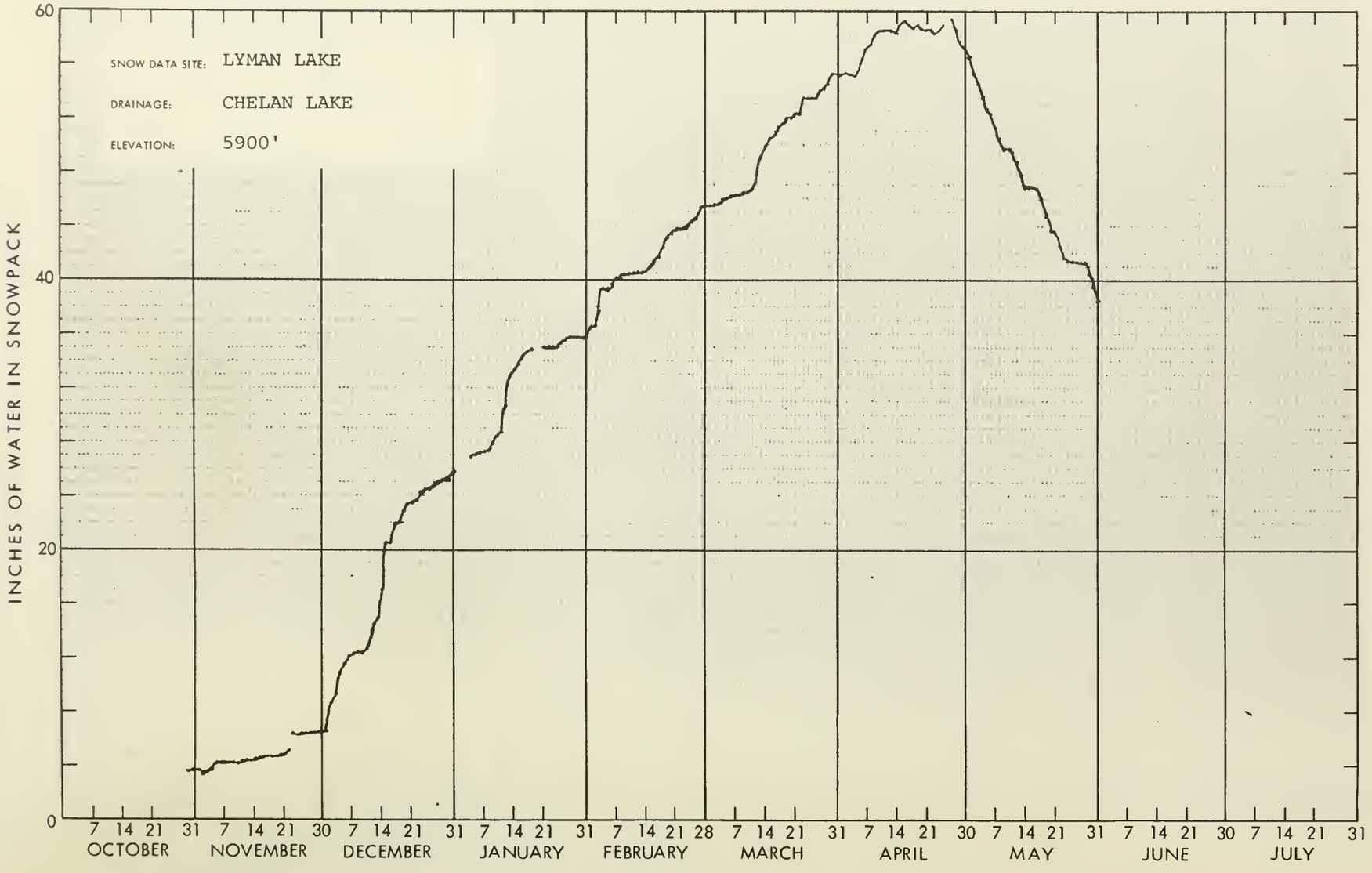
SNOW DATA SITE: LYMAN LAKE
DRAINAGE: CHELAN LAKE
ELEVATION: 5900'
INCHES OF WATER IN SNOWPACK
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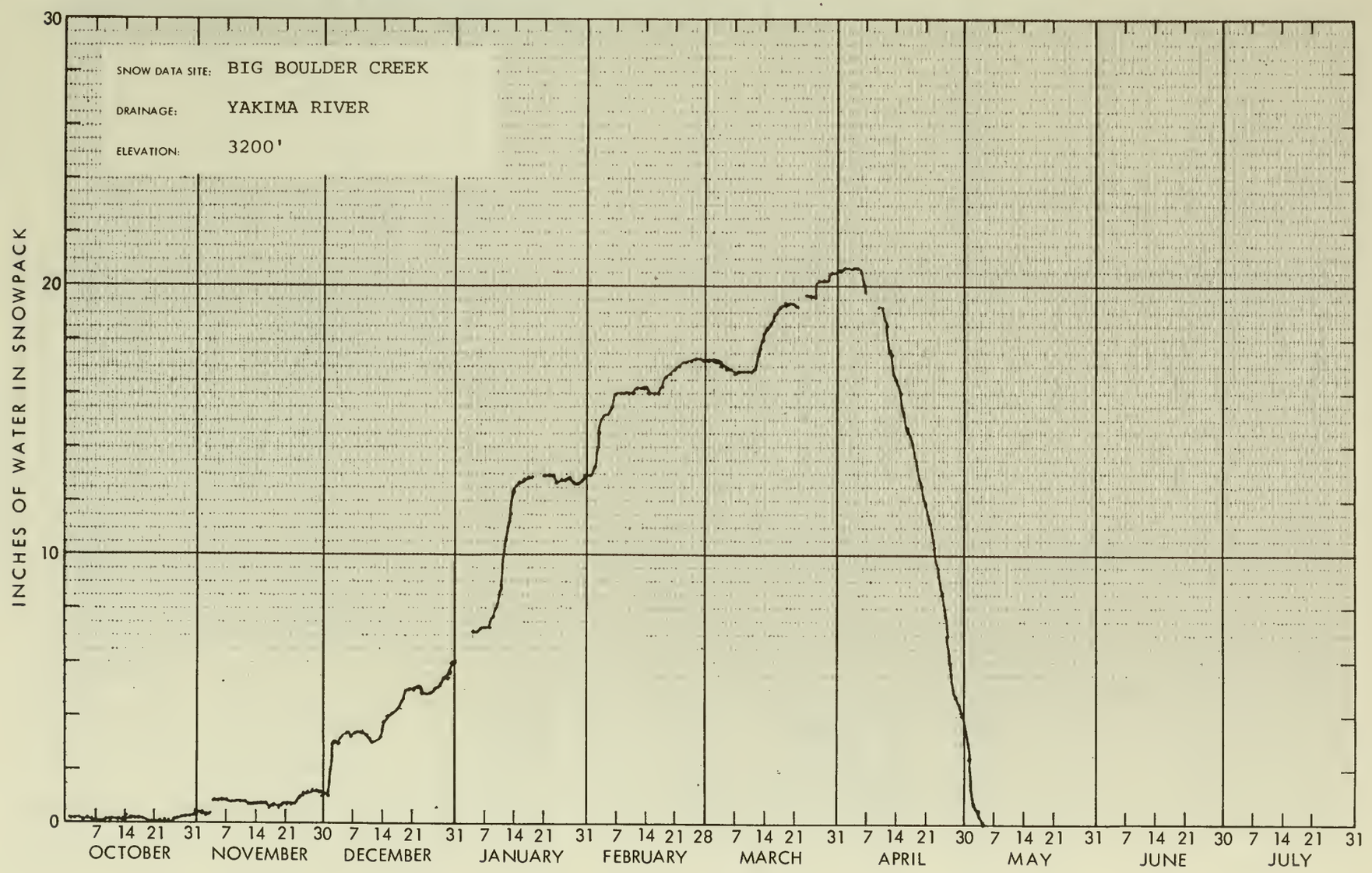
SNOW DATA SITE: BIG BOULDER CREEK
DRAINAGE: YAKIMA RIVER
ELEVATION: 3200'
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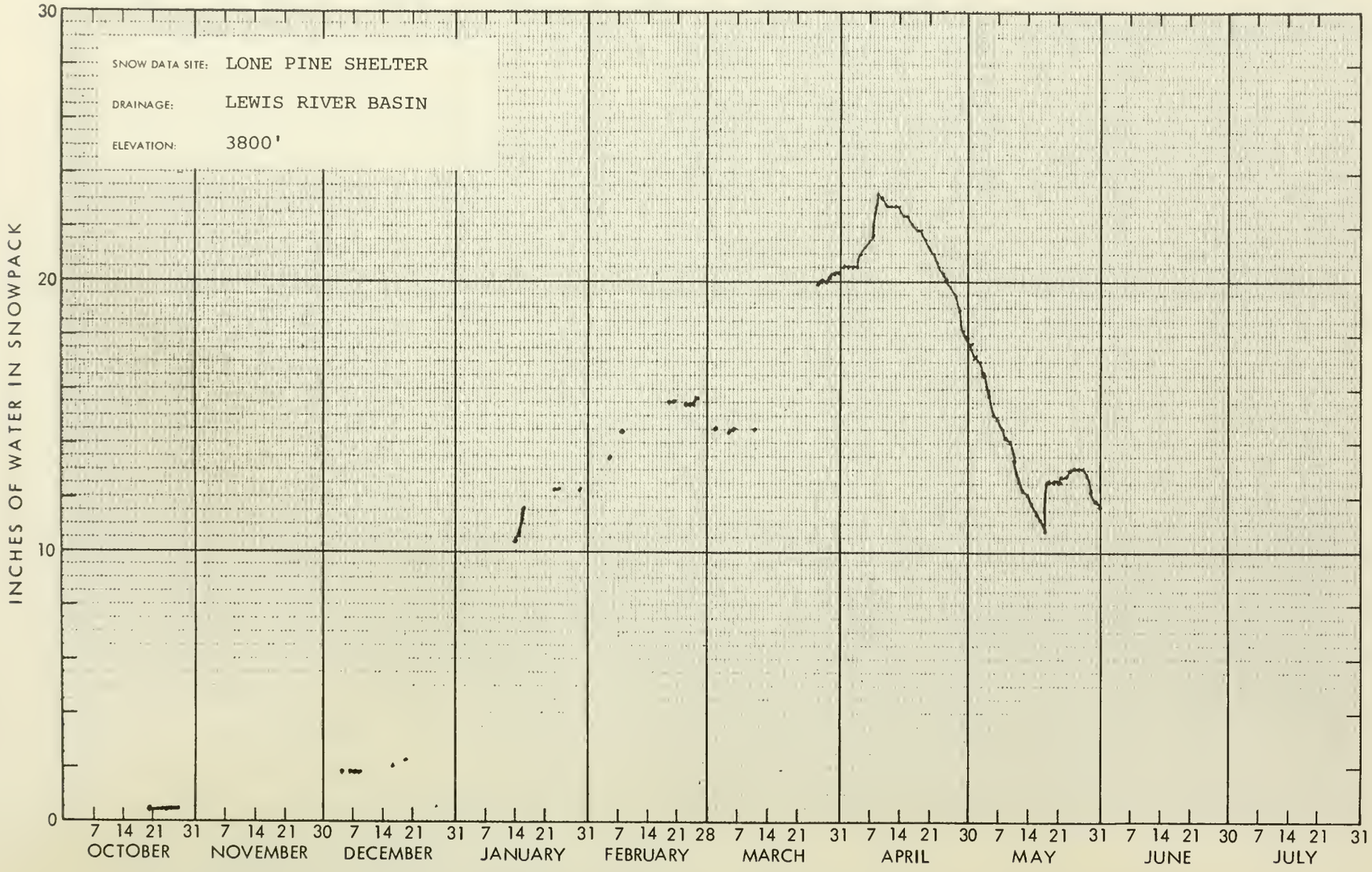
SNOW DATA SITE: LONE PINE SHELTER
DRAINAGE: LEWIS RIVER BASIN
ELEVATION: 3800'
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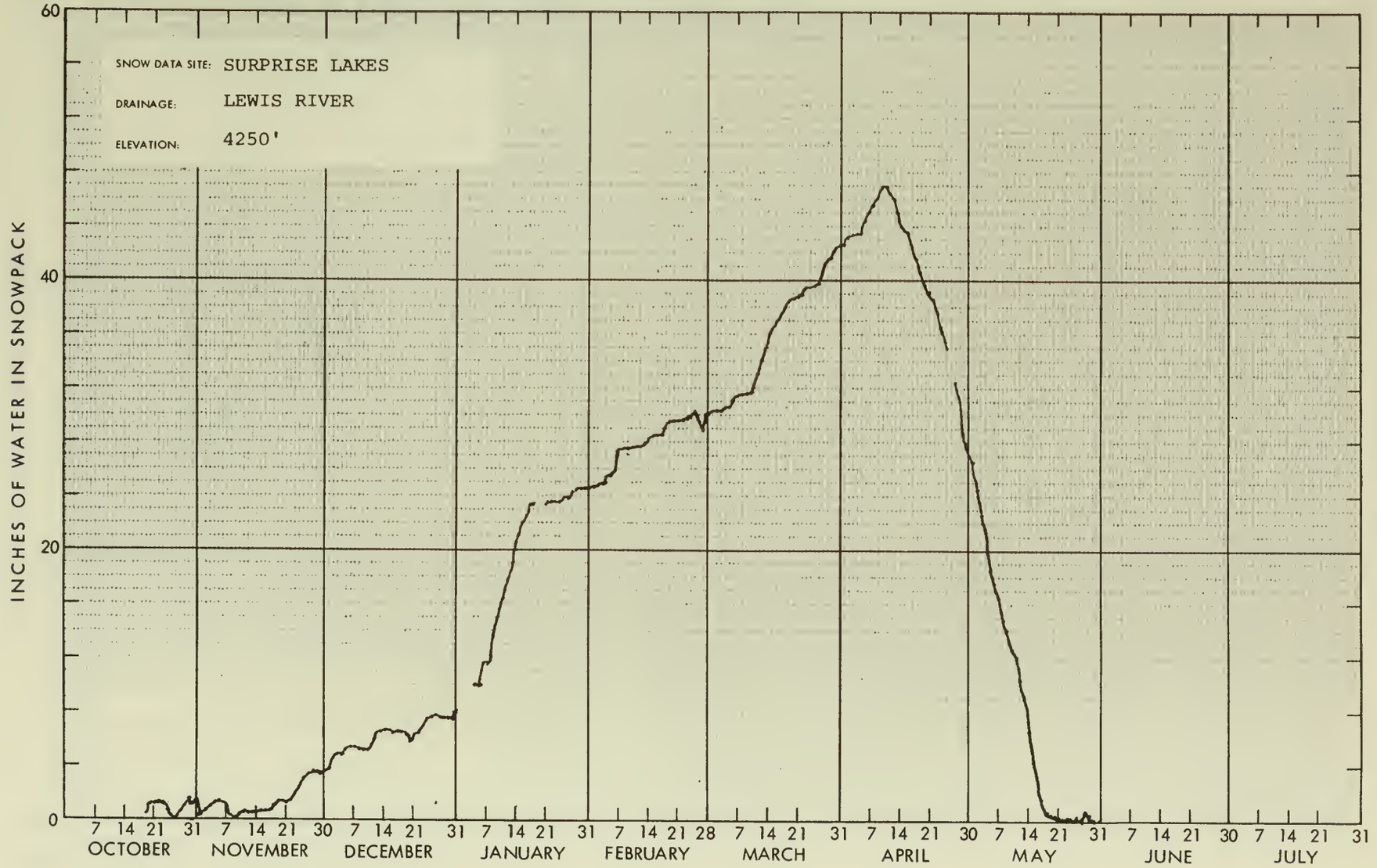
SNOW DATA SITE: SURPRISE LAKES
DRAINAGE: LEWIS RIVER
ELEVATION: 4250'
INCHES OF WATER IN SNOWPACK
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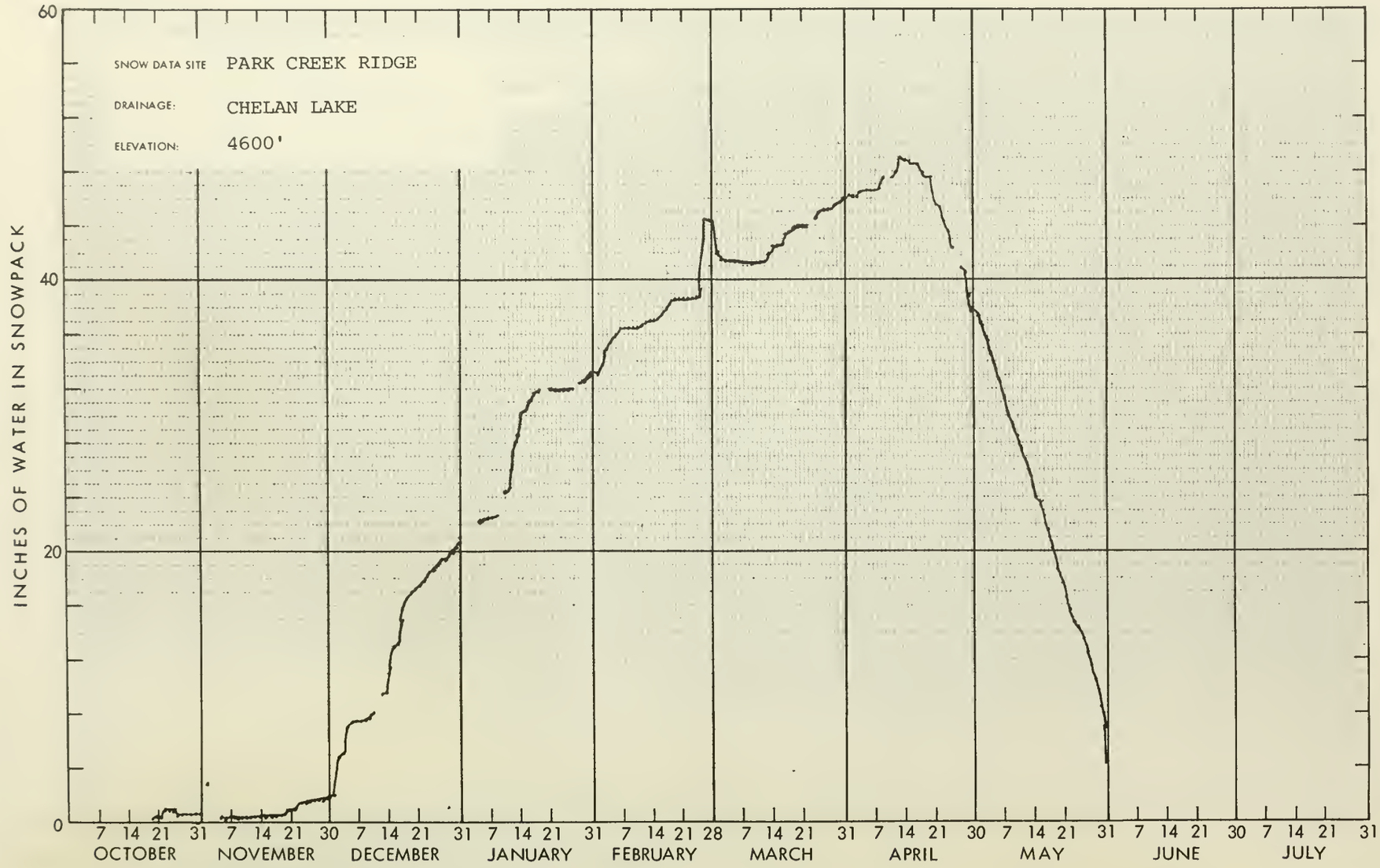
SNOW DATA SITE PARK CREEK RIDGE
DRAINAGE: CHELAN LAKE
ELEVATION: 4600'
INCHES OF WATER IN SNOWPACK
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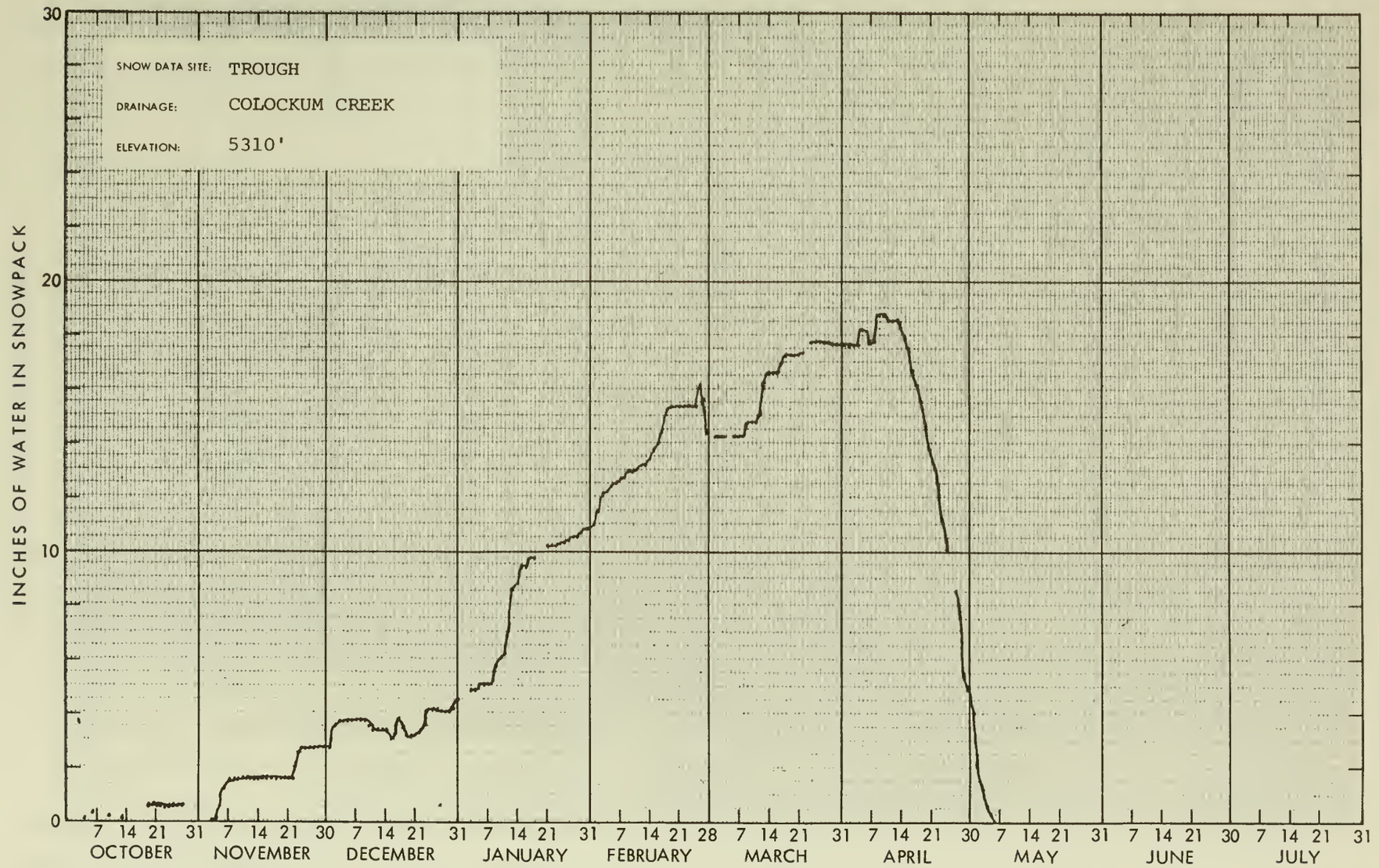
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DRAINAGE: COLOCKUM CREEK
ELEVATION: 5310'
INCHES OF WATER IN SNOWPACK
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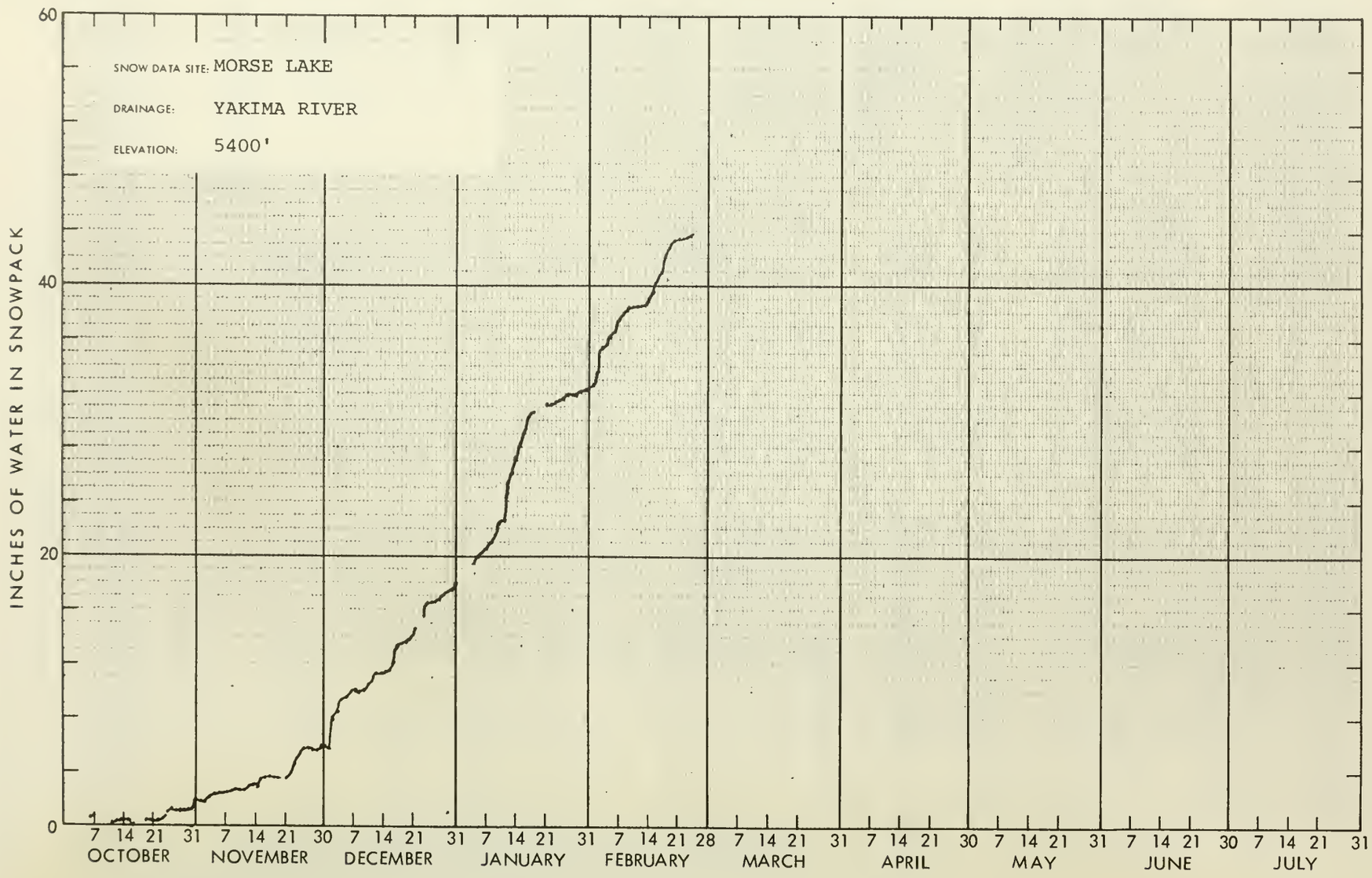
SNOW DATA SITE: MORSE LAKE
DRAINAGE: YAKIMA RIVER
ELEVATION: 5400'
INCHES OF WATER IN SNOWPACK
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SNOW DATA TO JUNE 1, 1980 - APPENDIX 1

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (inches)	
NAME	Number	Elevation				Last Year	Average #
UPPER COLUMBIA DRAINAGE							
PEND OREILLE RIVER							
Baree Creek	15B11	5500	5/15	23	13.0	33.1	41.5
Baree Midway	15B16	4600	5/15	6	2.9	21.1	25.0
Baree Trail	15B15	3800	5/15	0	0.0	0.0	0.0
Heart Lake Trail	14C10	4800	5/15	Not Measured		13.5	10.2
			5/29	0	0.0	0.0	-
Hoodoo Basin	15C10	6000	5/15	Est.	30.0	40.0	50.5
			5/29	44	24.5	28.8	39.0
Hoodoo Creek	15C01	5900	5/15	Est.	28.0	40.0	46.2
			5/29	43	23.2	28.9	36.5
Lookout	15B02	5250	5/15	5.2	2.4	20.0	30.9
			5/30	0	0.0	3.7	15.0
Nelson	19-Can	3050	5/15	0	0.0	0.7	1.1*
Schweitzer Bowl	16A06	4500	5/30	0	0.0	0.0	-
Schweitzer Ridge	16A05	6100	5/30	11	5.4	16.7	-
KETTLE RIVER							
Big White Mtn.	154-Can	5500	6/1	0	0.0	1.4	10.4*
Carmi	126-Can	4100	5/15	0	0.0	-	0.0*
Farron # 1	17-Can	4000	5/15	Not Measured		-	3.3*
Graystoke Lake	5-Can	5950	5/15	Not Measured		-	13.9*
Monashee Pass	48A-Can	4500	5/15	0	0.0	6.2	8.9*
Trapping Creek Lower	166-Can	3050	5/15	Not Measured		-	0.0*
Trapping Creek Upper	165-Can	4450	5/15	0	0.0	-	0.4*
SPOKANE RIVER							
Granite Peak	15B13A	6000	6/1	Not Measured		20.6	31.5
Lookout	15B02	5250	5/15	5.2	2.4	20.0	30.9
			5/30	0	0.0	3.7	15.0
Lost Lake	15B14A	6000	6/1	Not Measured		28.2	46.4
OKANOGAN RIVER							
Aberdeen Lake	6A-Can	4300	5/15	0	0.0	-	0.1*
Blackwall Mountain	100-Can	6250	5/15	47	18.9	19.6	35.6*
			5/30	32	14.2	8.5	27.6*
Brenda Mine	193-Can	4800	5/14	0	0.0	0.0	2.3*
Brookmere	27-Can	3200	5/14	0	0.0	0.0	2.1*
Enderby	130-Can	6250	5/13	54	26.1	28.0	44.2*
			5/30	34	17.5	23.4	38.0*

\# Average based on 1963-1977 period
* Average for years of record

USDA SCS PORTLAND OREGON 1973

SNOW DATA TO JUNE 1, 1980 - APPENDIX 2

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE						Water Content (inches)	
NAME	Number	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Last Year	Average #
OKANOGAN RIVER (Cont.)							
Hamilton Hill	107-Can	4900	5/14	0	0.0	0.0	6.4*
Isintok Lake	152-Can	5510	5/15	0	0.0	0.0	4.9*
Lost Horse Mountain	105-Can	6300	6/1	Late Report		-	4.1*
McCulloch	4-Can	4200	5/15	0	0.0	0.0	0.6*
Missezula Mountain	106-Can	5100	5/13	0	0.0	0.0	2.7*
Mission Creek	5A-Can	6000	5/15	9.1	3.4	15.8	19.4*
			6/1	0	0.0	6.9	12.4
Monashee Pass	48A-Can	4500	5/15	0	0.0	6.2	8.9*
Mount Kobau	156-Can	5950	5/13	3.5	1.5	2.0	10.5*
			5/30	0	0.0	0.0	4.4*
New Penticton Res. #2	183-Can	5225	5/15	0.0	0.0	0.9	5.8*
Nickel Plate Mtn.	47-Can	6200	5/15	0	0.0	-	6.3*
Silver Star Mountain	99-Can	6050	5/15	13	5.6	17.0	26.3*
			6/2	0	0.0	5.5	16.9*
Summerland Reservoir	3A-Can	4200	5/15	0	0.0	0.0	2.3*
Trout Creek	3-Can	4700	5/15	0	0.0	0.0	1.8*
Vaseux Creek	233-Can	4600	5/15	0	0.0	0.0	0.3*
White Rocks Mountain	70-Can	6000	5/16	0	0.0	-	19.0*
			6/1	Not Measured		1.8	13.7*
CHELAN LAKE BASIN							
Cloudy Pass +	20A22a	6500	5/15	Marker Missing		36.7	-
Little Meadows +	20A24a	5275	5/15	58	24.6	24.8	-
Lyman Lake +	20A23A	5900	5/15	90	38.2	32.8	-
Park Creek Ridge +	20A12A	4600	5/15	31	13.2	14.2	-
WENATCHEE RIVER							
Stevens Pass	21B01	4070	5/15	52	25.2	31.2	48.8
			5/31	32	16.5	13.5	40.6
Stevens Pass Sand Shed	21B45	3700	5/15	3.4	1.5	13.3	25.4
			5/31	0	0.0	0.0	18.7
YAKIMA RIVER							
Bumping Lake	21C08	3450	5/14	0	0.0	-	3.6
Bumping Lake New	21C36	3400	5/14	0	0.0	-	11.8
Stampede Pass	21B10	3860	5/15	12	4.7	17.0	41.7
			6/1	0	0.0	3.6	26.9
Tunnel Avenue	21B08	2450	5/12	0	0.0	-	14.4
White Pass (E. Side)	21C28	4500	5/13	25	11.5	-	29.1
			6/1	Not Measured		-	17.4
LOWER COLUMBIA DRAINAGE							
COWLITZ RIVER							
White Pass (E. Side)	21C28	4500	5/13	25	11.5	-	29.1
			6/1	Not Measured		-	17.4

\# Average based on 1963-77 period
* Average for years of record
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

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SNOW DATA TO JUNE 1, 1980 - APPENDIX 3

SNOW			THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE			Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Number	Elevation				Last Year	Average #
PUGET SOUND DRAINAGE							
Stampede Pass	21B10	3860	5/19	12	4.7	17.0	41.7
			6/1	0	0.0	3.6	26.9
SKYKOMISH RIVER							
Stevens Pass	21B01	4070	5/15	52	25.2	31.2	48.8
			5/31	32	16.5	13.5	40.6
Stevens Pass Sand Shed	21B45	3700	5/15	3.4	1.5	13.3	25.4
			5/31	0	0.0	0.0	18.7
BAKER RIVER							
Dock Butte	21A11A	3800		Late Report		33.0	57.2
Easy Pass	21A07A	5200		Late Report		36.0	75.8
Jasper Pass	21A06A	5400		Late Report		50.0	85.6
Marten Lake	21A09A	3600		Late Report		51.0	68.9
Mount Blum +	21A18a	5800		Late Report		46.0	72.1
Panorama New	21A26	4300	5/15	68	34.3	45.9	-
			6/1	Not Measured		-	74.2
Rocky Creek	21A12A	2100		Late Report		0.0	2.2
Schreibers Meadow	21A10A	3400		Late Report		22.0	46.3
Watson Lakes	21A08A	4500		Late Report		37.0	62.6
NOOKSACK RIVER							
Panorama New	21A26	4300	5/15	68	34.3	45.9	-
			6/1	Not Measured		-	74.2

CORRECTIONS AND ADDITIONS - 1980 SNOW REPORTS

February 1

OKANOGAN & METHOW RIVERS							
Salmon Meadows	19A02	4500	1/28	33	7.5	1.6	7.7

\# Average based on 1963-77 period
\+ Snow water equivalent estimated from aerial stadia observation

USDA SCS PORTLAND OREGON 1973

Agencies Assisting with Snow Surveys

GOVERNMENT AGENCIES

Canada:

Ministry of the Environment, Water
Investigations Branch, Victoria, British Columbia

States:

Washington State Department of Ecology
Washington State Department of Natural Resources

Federal:

Department of the Army
  Corps of Engineers
U. S. Department of Agriculture
  Forest Service
U. S. Department of Commerce
  NOAA, National Weather Service
U. S. Department of the Interior
  Bonneville Power Administration
  Bureau of Reclamation
  Geological Survey
  National Park Service

PUBLIC AND PRIVATE UTILITIES

Chelan County P.U.D.
Pacific Power and Light Company
Puget Sound Power and Light Company
Washington Water Power Company

OTHER PUBLIC AGENCIES

Okanogan Irrigation District
Wenatchee Heights Irrigation District

MUNICIPALITIES

City of Tacoma
City of Seattle

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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